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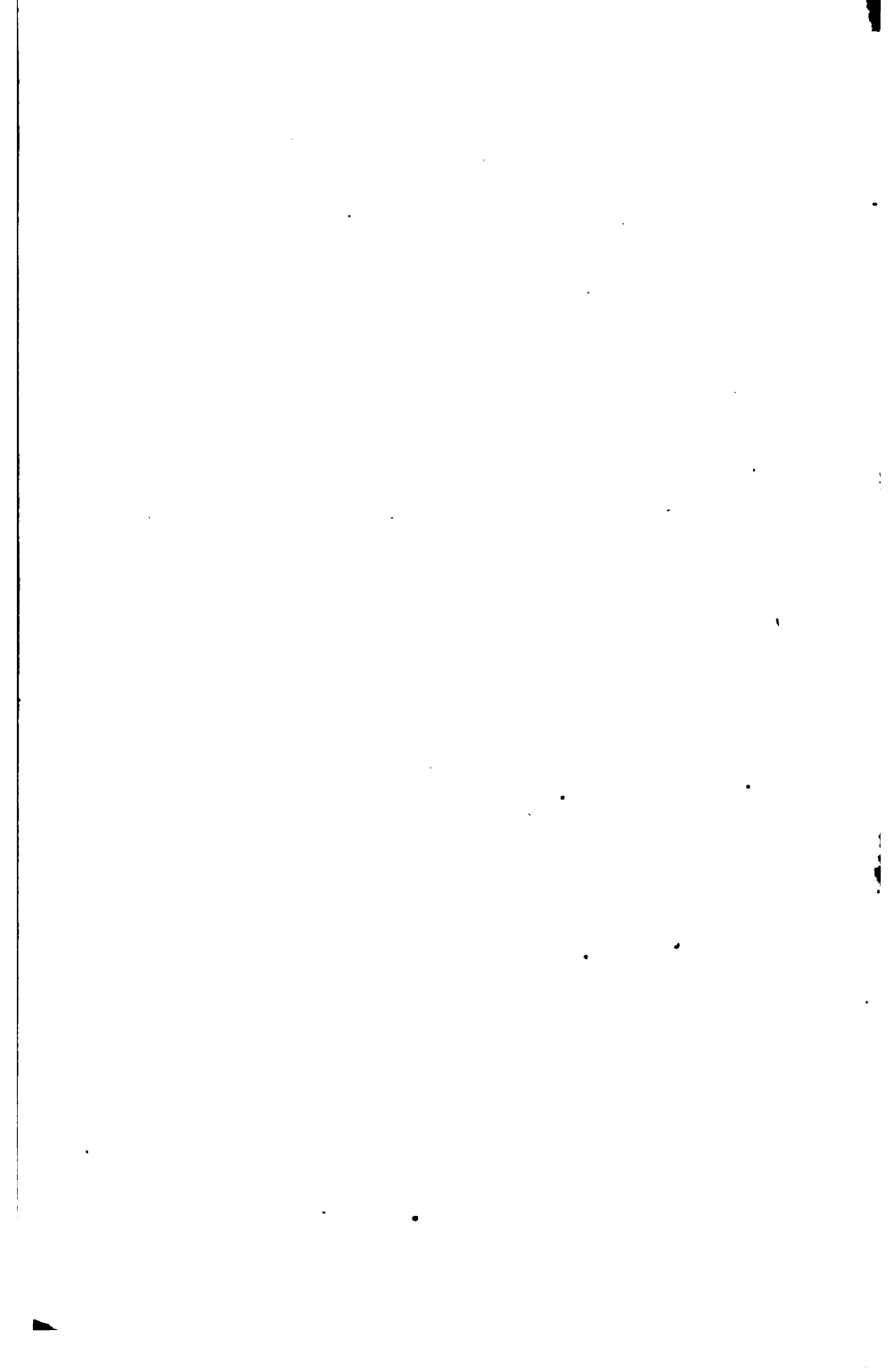
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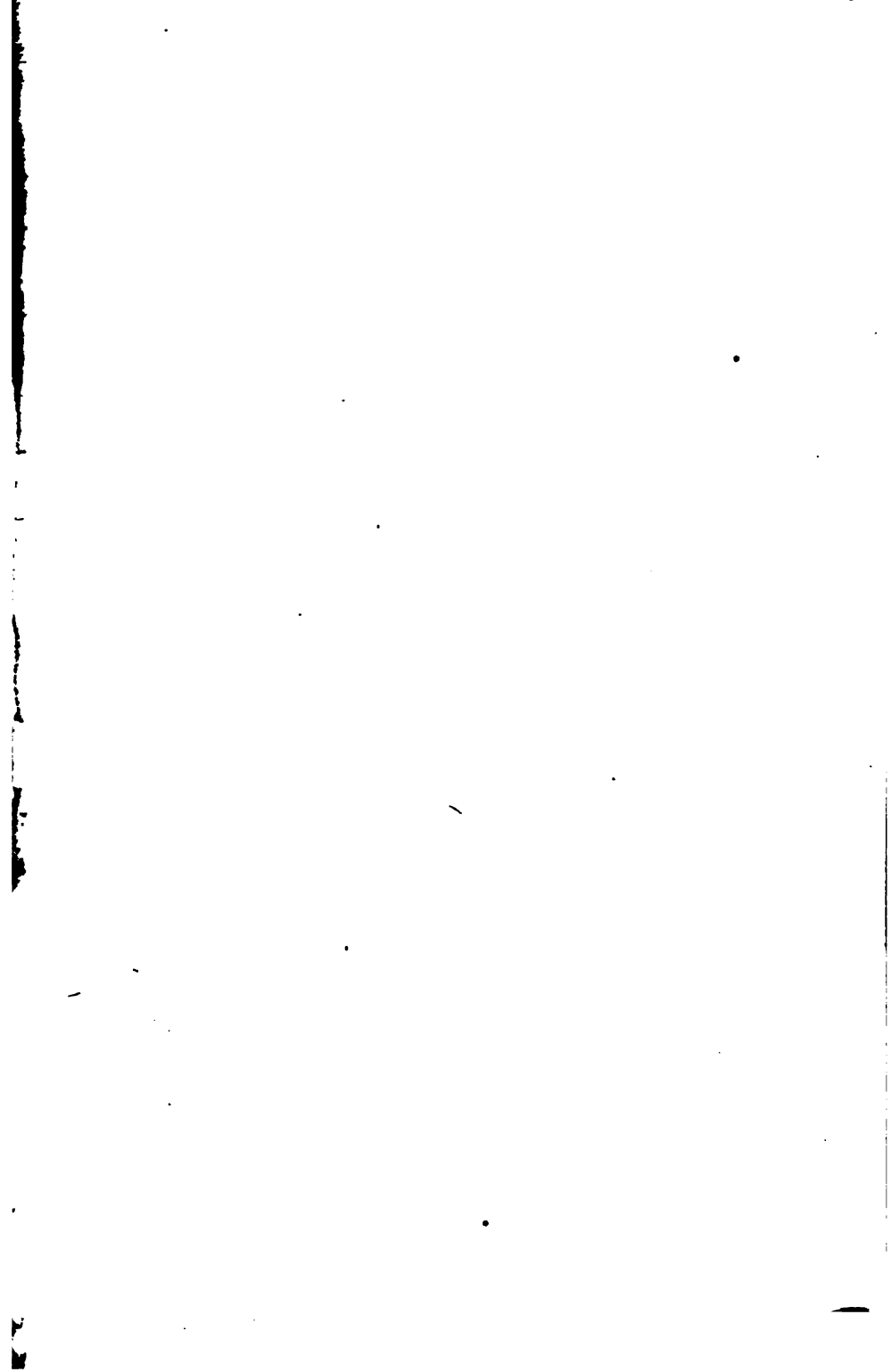
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# THE PRACTITIONER:

A Monthly Journal

OF

## THERAPEUTICS.

EDITED BY

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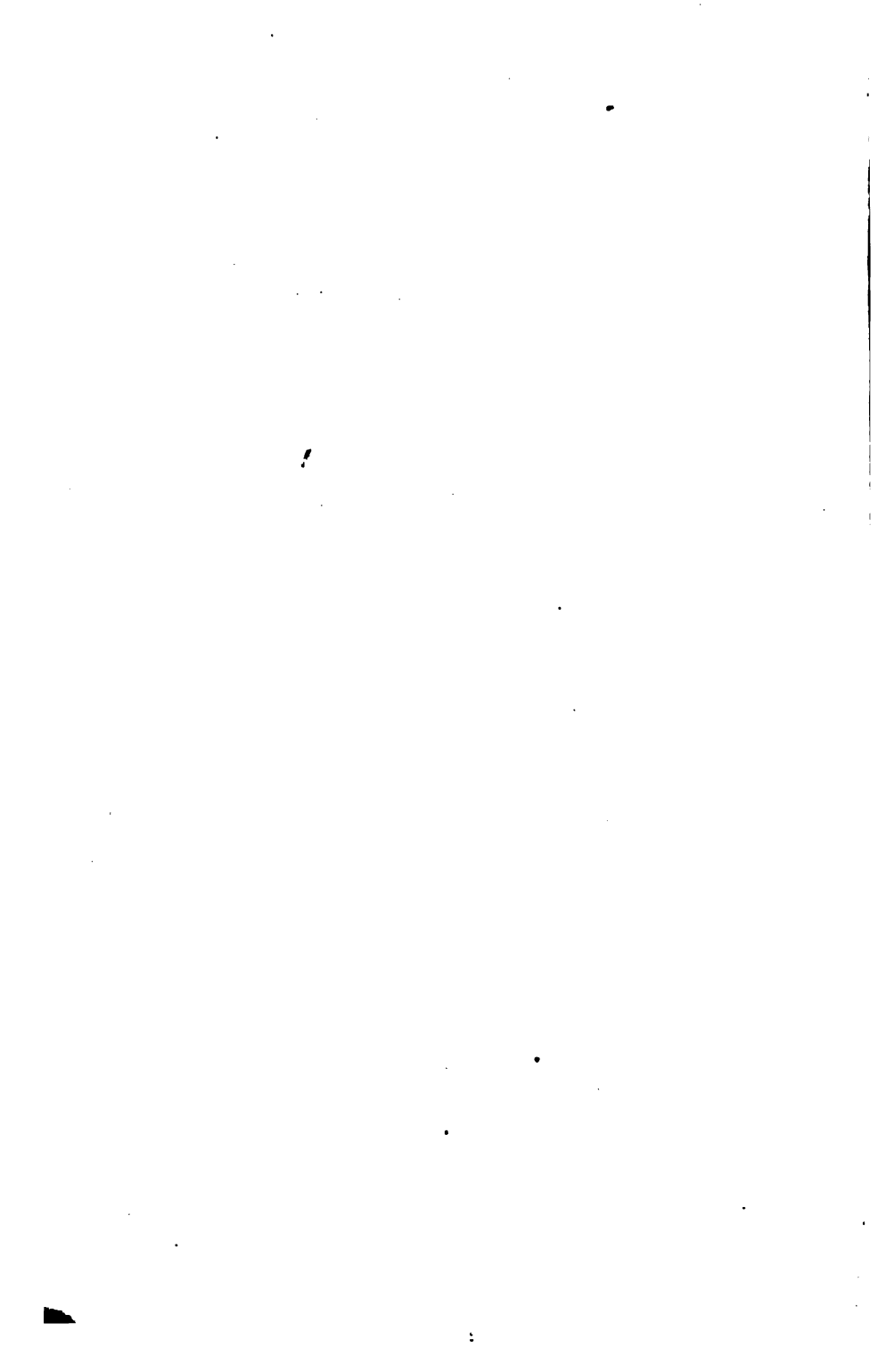
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# THE PRACTITIONER.

JANUARY, 1871.

## Original Communications.

### ON THE TREATMENT OF BLOOD-POISONING BY A CARBOLIZED ATMOSPHERE ACTING THROUGH THE SKIN AND LUNGS.

BY JOHN WOOD, F.R.C.S.

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VARIOUS methods of applying the antiseptic virtues of carbolic acid have been practised since this agent has been under the notice of the profession. As an application to wounds, it was long ago employed in Paris in the form of watery solution as well as carbolized oil, and was the subject of a *brochure* by Lemaire. When Professor Lister took it up, he turned his attention to its local employment to a wound in a more persistent and less irritating form than the watery and oily solution proves; and the result of his investigations we have in the carbolized lac plaster as a practical remedy, and the germ theory applied to surgical diseases as the *rationale* of its operation. As a remedy for internal administration, the salts of carbolic acid have been experimented on and administered in disease by Dr. Sansom, whose interesting and important results were embodied in a paper read at the Medico-Chirurgical Society, March 9th, 1869, and published in the fifty-second volume of the "Transactions." Dr.

Sansom neutralizes the irritant effects of the carbolic acid, by its combination in the form of a double salt with the sulphates, which he administers in cases of zymotic blood-poisoning in doses of from 20 to 60 grains.

He found that, without producing any deleterious effect upon the patient, he could thereby obtain the characteristic carbolic odour in the breath, showing the impregnation of the blood with its vapour. As a local application in the form of a lotion in gonorrhœa and other suppurations, I have found the use of the sulpho-carbolate of zinc very beneficial.

But it is the employment of this powerful agent in another form that will be the main subject of the present paper. For some time back I have used, at King's College Hospital, in cases of pyæmic and erysipelatous blood-poisoning, and also as a prophylactic agent after operations, the vapour of carbolic acid evolved constantly under and retained by the bed-coverings. The vapour thus remains sufficiently long in contact with the surface of the patient's body for absorption to take place into the system, as in a vapour bath or fumigation.

By such means we avoid, on the one hand, the local irritation and the retarding action of the acid upon the granulations of the wound or sore, which we leave free for the application of any other stimulating agent that may be deemed advisable, and for the regular and effective cleansing which is so powerful an aid to healthy action. We also, on the other hand, leave the stomach free from the disordering effect which the agent may and does undoubtedly cause, and more available for the administration of other stimulating and antiseptic medicines, such as chlorine, which possess greater affinities for, and are more conformable to, the animal structures.

For the purpose indicated, I employ the powder known as Macdougall's disinfecting powder. This is placed in small muslin bags to a considerable extent pervious to the dust, and wholly so to the vapour which is emitted. These are suspended from the ribs of the cradle, which is almost universally used to keep off the weight of the bed-clothes or to swing the limb, in surgical cases. Where these are not used, the small bags placed on the bed near and around the wound are quite as effective. I have never yet found in any case the presence of the dust to be

complained of as irritating to the skin of the patient, and I have used them, as the subjoined cases will show, with the best results in severe cases of traumatic erysipelas. I also employ the powder, freely spread under and around the bed, in all putrefying and infectious cases, and the floors are washed with a solution of the common carbolic acid, so as to pervade the atmosphere very sensibly.

As regards the effect upon the wound itself, it seems to do all that is ordinarily necessary to keep the parts totally free from putrescence or smell of an offensive kind, when large sloughs are not actually present, and the wound very putrescent. When such are present I have usually used, in addition, the carbolic oil, of the strength of one part in six or eight, as a direct application, so as to saturate the sloughing part. In doing so, care is taken to avoid contact of the oil with the surrounding skin or with healthy granulations, upon which it has invariably the effect of retarding development and cicatrization. The perfect freedom of the beds, even in the worst cases, from smell and offensiveness is very remarkable, and this alone cannot but be beneficial to the patient's condition, and adds to his power of resisting septic influences.

In one case of undoubted pyæmic infection after operation, the effect of the absorption of the acid was evident both in the breath and in the urine. The latter presented for the space of a week a characteristic slate-coloured film and deposit. Some of this was collected and analysed, and was stated to be a modification of the colouring matter of the urine, and to be, in fact, identical with the ordinary blue indigo, and probably formed by transformation of the yellow indigo of the excretion. Since that time I have observed that a similar sediment has been observed in other cases subjected to the action of carbolic acid.

In the adjoined cases this appearance has not been observed in the urine. I have selected them as being fair specimens of a recent accession of erysipelalous and pyæmic cases in our hospital; and as having had the advantage of careful temperature observations made by Messrs. Whitmore and Rope, the house-surgeons; and also as having the carbolic vapour treatment perseveringly carried out throughout.

The two cases of *erysipelas* were as severe as any which I have

ever seen recover. The stimulating plan was fully carried out, and due justice must be rendered to it and to the administration of the tincture of the perchloride of iron, although the latter did not form a principal part of the plan of treatment. The carbolic vapour did not seem to irritate the erysipelatous inflammation, which pursued in every respect its usual course of spreading, vesication, and consecutive abscess. The advantages which this method of application afforded in these cases were to leave the stomach free to the other remedies, to permit a complete freedom of escape of the pus and sloughs from the wounds, and their treatment by more soothing applications; while, at the same time, the benefits of the carbolic antiseptic action were fully obtained, as proved by the complete absence of putrefaction or any unpleasant smell whatever throughout the whole progress of the cases.

The case of *pyæmia* is remarkable for the distinctly marked and well-connected history of a previous threatening of a similar attack after a wound of the foot, probably resulting in some damage to the knee-joint at that time; and also for the *complete and rapid recovery* of the patient, with a stiff knee-joint, after the *total necrosis and removal of the patella* through a free opening for the evacuation of the pyæmic abscess of the joint. I have not been able, up to the present time, to discover a record of such an occurrence, nor to find it in the experience or remembrance of any of my pathological friends.

If, as I am inclined to think, the fortunate result is in a great measure to be attributed to the free use of carbolic acid, which, from the limited extent of the wounds concerned, could not have been applied sufficiently extensively to them to have considerably affected the system, and which, if applied by the stomach, would have been most likely to interfere with the quasi-fermentative changes necessary to healthy and complete digestion, and at a time of crisis when all the powers at Nature's command are required to combat with her fearful and insidious enemy, then we have in this case very good and valuable evidence in favour of this method of employing this very powerful and beneficial agent, by introduction through the skin of the whole body and by the lungs of the patient.

In the following cases, too, the variations of the pulse and



temperature, and the relations of a sudden rise in the latter with the occurrence of a rigor or slight shivering, or a mere tendency to that condition, are also noteworthy.

CASE I. *Severe Erysipelas after slight operation.*—S. Dillon, aged 21, living at 34, King Street, Drury Lane, admitted Nov. 4th, 1870, into the Nightingale Ward, King's College Hospital, under the care of Professor Wood, suffering from an attack of erysipelas.

The patient, a coach-builder, pale and exsanguine in appearance, was operated on in the out-patient department, for a phymosis enclosing a large number of gonorrhoeal warts beneath the foreskin. A few days after the operation he was seen again, and the wound then presented a healthy appearance. The warts were then touched with strong nitric acid.

A few days after this he came to the hospital with the penis and scrotum acutely inflamed and much swollen, with an erysipelatous blush extending over both the thighs and over the groins and abdomen as far as the navel. A dark grey or blackish patch of sphacelated skin extended over the whole of the lower part of the scrotum, and the edges of the split-up prepuce were swollen and everted. The patient was cold and shivering, the tongue very dry, the pulse quick, and he complained much of thirst, and spoke in a hoarse whisper. Soon after his admission (at 6 P.M.) he had a severe rigor which lasted about fifteen minutes. Pulse, 104; temperature rose to 103.5°. Was ordered tinct. ferri perchlorid., sp. chloroform. ℞xx āā 4tis horis, and brandy ℥xij—viz. ℥ss every hour—strong beef-tea and egg diet. To have Macdougall's powder freely spread around and under the bed, and placed inside in bags suspended to the cradle.

Nov. 5th.—Delirious, incoherent; slept badly; passed water involuntarily. Pulse 108; temperature 102°. Ordered liq. morph. ℥40 h.s.s. Brandy increased to ℥xvj daily.

6th.—Slept badly; tongue dry; paroxysms of wild delirium; patch of redness appeared on right elbow. Pulse 112; temperature, 102.5°. Ordered hyd. chloral. gr. xx h.s.s. and the addition of tinct. quinae co. ℞xx to each dose of the mixture.

10th.—Had two rigors, lasting about three minutes each. Passed a better night with the chloral. Pulse, 104; respiration, 44; temperature, 102° and 101.5°. Inflammation on right arm

has disappeared, but is rather extended on right thigh. Vesication general over the abdomen and groins.

12th.—Over the belly and legs the redness somewhat faded. Appetite good. Pulse, 100-112; respiration, 40-44; temperature reduced to 98° M. rising to 101° E.

14th.—The slough on the scrotum has come away entirely, leaving the lower two-thirds of the tunicae vaginales of the testicles exposed. Pulse, 100; respiration, 36-40; temperature, 101·8°.

15th.—Passed a better night. Tongue with dry brown fur. Complains much of thirst. Pulse, 124; respiration, 40; temperature, 103·8° M., 101° E. To have brandy  $\frac{3}{4}$ xx in twenty-four hours.

16th.—The inflammation has extended somewhat lower on both legs, and is of a brighter colour. Had a rigor at 11.30 A.M., not severe, but lasting ten minutes. Pulse very compressible, 124-104; respiration, 44-36; temperature, 104° during rigor, 100° E. To have brandy increased to 1 oz. every hour.

17th.—Much better. Tongue still dry in centre. Pulse, 112-100; respiration, 32-36; temperature, 101·8° M. to 99·6° E. Reduce brandy by one ounce every day.

18th.—Slept well without the chloral. The pulse rose in the morning to 140, respiration to 40, and the temperature to 103·5°; in the evening they were lowered—pulse to 100, respiration to 34, and temperature to 98°.

19th.—A slight redness has appeared on right foot. In the evening the pulse rose to 132, and the temperature to 103·5°. Bowels constipated. To have castor oil  $\frac{3}{4}$ ss. Next morning the pulse and temperature were reduced each to 100°.

22nd.—Redness on foot much faded. In the morning the temperature was found to have mounted to 102°; pulse, 108.

23rd.—Redness on foot quite disappeared. Feels and looks much better; aphonia still continues. Pulse, 108; temperature, 100°.

24th.—Has had an attack of diarrhoea; morning pulse and temperature each 100°. R. acid. sulph. aromat.  $\mathfrak{M}$ xxx; aq.  $\frac{3}{4}$ j Ft. hst. ter in die sumend.

26th.—The inflammation has entirely disappeared, except a slight patch of redness on the right arm. The sore is filled with

healthy red granulations, and the patient is gaining strength rapidly. The aphonia continues up to the present time, and the pulse oscillates between 88 and 100, and the temperature between  $98^{\circ}$  and  $100^{\circ}$ . No œdema has been observed in the fauces or throat, and only a slight blush of redness at any time. The patient is still in hospital, rapidly convalescing.

CASE II. *Severe traumatic Erysipelas after a wound of the hand.*—Alfred Chipperfield, aged 26, a carpenter, single, admitted into the Fiske Ward, King's College Hospital, October 7th, 1870, under the care of Professor Wood, suffering from a wound on the dorsal surface of the right hand, caused by a circular saw while engaged in his work.

The patient's hand is much swollen, and there is a wound on the dorsal surface about  $3\frac{1}{2}$  inches in length, extending from the carpal along the second and obliquely through the third metacarpal bone to the interval between the index and ring fingers of his right hand. The top of the middle finger is also nearly severed from the digit. The patient states that for some time back he has felt weak and out of health, with a hacking cough which he supposes that he got from his wife, whom he nursed closely during a consumption, which proved fatal a short time before the accident.

From the time of his admission up to the 15th October, the case seemed to do well under water dressings and poultices, and a generous diet. On that day, however, his pulse rose to 100 in the morning and 125 in the evening, the temperature chart showing  $104^{\circ}$  in the morning and  $103^{\circ}$  in the evening. On the 16th, the pulse was 120 in the morning, with a temperature of  $103.4^{\circ}$ ; and in the evening the pulse rose to  $130^{\circ}$ , with a temperature of  $102.4^{\circ}$ . On the 17th, the morning pulse was 112; temperature,  $102.8^{\circ}$ ; and in the evening the pulse was 124, and the temperature sank to  $101.3^{\circ}$ . On the 18th, the morning pulse was 120; temperature,  $103.4^{\circ}$ ; and the evening pulse 124, and the temperature  $102^{\circ}$ . On the evening of the 19th he had a pretty severe rigor, the temperature marking  $103^{\circ}$ , and on the visit it was found that the hand was much more red and swollen, the wound flabby, the granulations ash-coloured, and the tip of the middle finger entirely sphacelated; and the patient complained of headache and general distress, with a furred white

tongue and disinclination for food. He was placed upon strong beef-tea, two eggs, and milk diet, and ordered a dose of half an ounce of castor oil. Macdougall's powder was ordered to be placed in bags on each side of the wounded hand, and a linseed meal poultice smeared over with carbolized oil (1-16) to be applied to the hand and arm. He was ordered to take acid. sulph. aromat. ℥xv, decoc. cinch. ʒj, 4tis horis. A small abscess which had formed on the radial side of the wrist was opened.

*Oct. 22nd.*—This morning the temperature sank suddenly from 101° to 99°, and the pulse from 108 to 96; but the former rose again in the evening to 102·4°, and the latter to 120. On the 24th the temperature again rose suddenly to 104·8° coincidently with a rigor, the pulse marking 116 M. and 120 E.

*24th.*—Another abscess which had formed on the lower half of the flexor side of the fore-arm was opened, and discharged a thin pus; the vivid redness extending beyond the wrist and half-way up the arm with much swelling and great pain, and the brown dry tongue, hurried breathing, and great distress and delirium, showed the patient to be in a state of much danger. On his face, head, and neck, a well-marked flush of erysipelatous redness and much swelling had become apparent, causing a great increase of suffering. The redness on the arm had now reached half-way up to the shoulder. The amount of brandy was increased to one ounce every hour, with as much concentrated beef-tea as could be administered. He took the nutriment very well and without nausea, the pulse remaining at 120. He was ordered ammoniæ bicarb. gr. v, sp. chloroform. ℥xx, and decoct. cinchonæ ʒj, every four hours.

Next day the temperature sank to 101·8°. On the morning of the 26th, the pulse remaining still at 120, the temperature rose to 103·8°. On the evening of the 27th it sank to 102·2°, with the pulse at 124. In both morning and evening observations of the 28th, the temperature still marked 102·2°, and the pulse in the evening was 116. He was now ordered half-drachm doses of tinct. ferri perchlorid. instead of the ammonia, but with the same mixture otherwise. On the morning of the 29th the temperature had dropped suddenly to 99°, but at the same time the pulse fell to 112. On the 30th, in the evening it rose again to 101°, and the pulse rose with it to 120. Next day, the morning temperature showed

99·6°, pulse 108, while in the evening the temperature sank to 98·8° and the pulse to 100. At this time the inflammation and swelling on the face and arm were evidently subsiding, and thenceforward the temperature, after a rise on the evening of the 31st to 99·6°, remained steady at 98°, while the pulse kept usually below 100, with oscillations between 96 and 108. From the 1st November, the amount of brandy was diminished by two ounces daily, until it reached only 3vj. On the 9th November the inflammation had totally disappeared both from the arm and the face. The wound on the hand was now dressed with carbolized oil (1 part to 16), and another secondary abscess which had formed among the flexor muscles was freely opened, and discharged a thick yellow pus. The patient is now convalescent in the hospital, and is gradually getting more use of the muscles of the arm and hand.

CASE III. *Pyæmia after wound of right hand. Necrosis and exfoliation of the patella of the left knee-joint.*—Rosetta Laura Allen, aged 7, living at 163, High Holborn, was admitted into the Female Surgical Ward, King's College Hospital, on August 3, 1870, under the care of Professor Wood, suffering from pyæmia.

The patient states that about a fortnight before her admission she ran a fork into the index finger of the right hand. The finger soon after this became very painful, swollen, and inflamed, on account of which a poultice was applied to the wound, which discharged freely a thick pus. Some time afterwards the left knee began to swell and became very painful, with much feverishness and shivering. The patient had a somewhat similar attack in the knee last Easter, caused by a wound in the foot. The tongue is foul, the cheeks flushed, the bowels confined; pulse 130, temp. 101·2°. To have house medicine, strong beef-tea and egg and milk diet. Finger poulticed, with mild carbolic oil spread over the poultice; Macdougall's powder suspended in bags around the limb.

*August 6th.*—To-day the pain is much increased; the patient has had rigors; little sleep at nights; the pulse last night was 144, and the temp. 102·2°. The left knee is much swollen and very painful. On the outside of the patella and a little below its centre there is an obscure fluctuation, and the skin is red

and cedematous. Professor Wood made a vertical incision into this place, about three-quarters of an inch long, from which a moderate quantity of matter was discharged.

8th.—Another abscess, which had been formed on the finger, was opened to-day, and a poultice applied. The wounds on the finger and knee discharged freely.

For a week from the last date the temp., after reaching to nearly  $103^{\circ}$ , showed steadily  $102^{\circ}$  at night and  $100.6^{\circ}$  in the morning, while the pulse kept at 128 and 130. On the 15th the temp. sank to  $99.2^{\circ}$ , with the pulse at 108; and on the 16th it was as low as  $98.8^{\circ}$ . From the morning of the 18th to the evening of the 19th it rose regularly until it marked  $104.4^{\circ}$ , the pulse rising from 112 to 152. This was evidently coincident with and dependent upon the formation of another abscess on the inside of the knee-joint, a little above the level of the patella. The patient had a great increase of pain with slight shivering, and the appetite fell off and the tongue got more foul. The abscess giving evidence of fluctuation, it was opened on the 20th, giving exit to a considerable amount of thick matter. A probe was passed freely into the outer opening first made, to ensure its patency. It could be felt to pass freely into the joint behind the patella, which felt very moveable, and carious on its deep surface. The temp. then went down to  $102^{\circ}$  in the morning and  $103.5^{\circ}$  in the evening, and on the 21st fell as low as  $100.1^{\circ}$ , with the pulse at 100. On the 23rd the temp. again rose to  $103.4^{\circ}$ . From this time the temp. signally subsided, showing almost uniformly two degrees lower in the morning than in the evening. On the morning of the 30th it marked  $98.2^{\circ}$ , with a pulse of 104. It then began to rise, and on Sept. 6th, with a pulse of 148, it marked  $103.8^{\circ}$  in the evening, after being as low as  $98.8^{\circ}$  with a pulse of 116 in the morning. This was apparently in consequence of the removal of the first phalanx of the index finger, which being quite carious, and projecting from the wound, was removed to-day under chloroform. The wound was dressed with the carbolic acid lotion.

Sept. 12th.—The wounds on the finger and knee present a healthy appearance, and are discharging moderately. The temp. since last report has fallen, reaching as low as  $97^{\circ}$  on the 10th Sept., the pulse being at 96.

The edge of the necrosed patella made its appearance at the outer wound of the knee, and, appearing entirely detached, was removed without difficulty with a pair of forceps. The bone is perfect and complete, presents a yellow appearance from its soaking in matter, but it is rough and carious, and quite denuded of cartilage on its posterior aspect; the anterior surface is much like an ordinary prepared bone.

*Oct. 24th.*—Carbolic dressing still applied to the knee and hand. The innermost wound on the knee-joint and that of the finger are nearly healed up, and there is very little discharge. Pulse and temp. still reduced, the former ranging from 90 to 100, and the latter between 98° and 99°. The patient's general health is much improved. She eats and sleeps well, and is evidently getting fat.

*28th.*—The wound on the knee is filled entirely with healthy granulations. It is dressed with oxide of zinc ointment. All the carbolic treatment discontinued.

*Nov.*—The wound on the knee is now quite healed; the limb being quite stiff and immovable at that joint. A dextrine bandage was applied to the leg from the foot half-way up the thigh, and the patient was discharged on Nov. 9th, being then able to walk about freely with the aid of crutches.



## NOTE ON THE PHYSIOLOGICAL ACTION OF NITRITE OF AMYL

BY JAMES F. GOODHART, ESQ.

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THE following experiments with Nitrite of Amyl were originally commenced with the idea of, if possible, determining more accurately the influence of the vaso-motor system of nerves on the fluctuations of body temperature during health. The results at present have proved fruitless in the direction indicated, or at least have been only of a negative character; still, from the activity of the drug, and the comparatively rare use of it in general by medical men, a few of the observations and a summary of the results that have been obtained on the healthy body may not be altogether devoid of interest.

It should be stated at the commencement that nearly all the experiments were made on my own person, a few of which only have been recorded, sufficient to show the chief features of the drug's action. The dose varied from three to ten minims, the quantity being poured on lint and inhaled. Often much even of this remained behind after the inhalation (generally lasting from fifty seconds to two minutes) was discontinued.

EXPERIMENT 1.—10h. 20m. P.M.: Pulse 54, slightly irregular.

10h. 29m.—Temperature 97·7°. Ten minims of the nitrite were inhaled for two minutes. Some remained on the handkerchief.

10h. 31m.—Temperature 97·7°. Pulse 136, regular. Face much flushed, with much throbbing in the ears. Muscular tremor of arms. Conjunctivæ bloodshot. Involuntary coughing.

10h. 33m.—Pulse 80, very irregular.

10h. 36m.—Temperature 97·7°. Pulse 72, more regular. Slight feeling of lassitude remaining.

11h. 0m.—Pulse 80, regular.

EXPERIMENT 2.—10h. 44m. P.M.: Thermometer placed under tongue.

10h. 50m.—Temperature 97·7°.

11h. 5m.—Temperature 97·7°. Pulse 60.

11h. 8½m.—Inhalation of five minims of nitrite.

11h. 9m.—Inhalation discontinued. Temperature 97·9°. Feeling of intense fulness in the head, with violent throbbing in the ears. Face scarlet, slight perspiration over the forehead. Slight dyspnoea with inclination to cough.

11h. 9½m.—Pulse 65.

11h. 11m.—No effects of the drug remaining except slight dizziness in the head.

11h. 13m.—Temperature 98·1°. Pulse 72, irregular.

11h. 32m.—Temperature 98·1°. Pulse 64.

11h. 48m.—Temperature 98·1°.

EXPERIMENT 3.—12h. 5m.: Thermometers inserted, one in the mouth and a second in the ear, the exposed surface of the latter being covered with wool.

12h. 8m.—Temperature, 98·4° mouth; 94·8° ear.

12h. 14m.—Temperature, 98·7° mouth; 96° ear.

12h. 18m.—Temperature, 98·7° mouth; 97° ear. Five drops of nitrite inhaled in fifteen seconds. The pulse was beating 168 per minute.

12h. 20m.—Temperature, 98·7° mouth; 97° ear. Pulse 104 fully under the drug.

12h. 25m.—Temperature, 98·7° mouth; 97° ear. Pulse 80. Still hot about the head, with throbbing. No other feeling.

EXPERIMENT 4.—Pulse 120 before the experiment, having been accelerated by fast walking. Five minims of the nitrite were inhaled. Flushing of the face and throbbing in the head came on in 30 seconds, the pulse reaching 160 per minute. Mr. Bader examined the eyes ophthalmoscopically, both before and while under the influence of the drug. At the latter time, the veins of the disc were seen to become enlarged, varicose, and tortuous. The arteries were small, but not abnormally so. Three minims were taken again immediately after. The same symptoms recurred, but not so quickly.

EXPERIMENT 5.—Temperature 98°. Pulse 84 prior to com-

mencement. Pupils moderately dilated. Three drops of nitrite inhaled.

In 10 seconds, pulse beating at rate of 104. In 30 seconds, throbbing was commencing in the head with injection of the conjunctivæ; left off inhaling; pupils as at the commencement. In 120 seconds, temperature 98°; pulse 96. In 8 minutes, pulse 84, very irregular.

EXPERIMENT 6.—Pulse 84; temperature 98.1°. Three minims inhaled.

In 5 seconds, pulse 108 per minute (at rate of). In 10 seconds, pulse 120 per minute (at rate of). In 15 seconds, pulse 144; throbbing in the head now commencing, also flushing; left off inhaling. In 60 seconds, pulse 124, still much throbbing. In 120 seconds, pulse 84, very irregular; heavy aching all through head.

EXPERIMENT 7.—Six minims of the drug inhaled. Throbbing commenced in 15 seconds; fully under in 50 seconds. Inhalation then remitted. Flushing, &c. less in 60 seconds. Sight very hazy; much cough.

In 1 min. 50 sec., less throbbing; sight clearer. In 3 min. 50 sec., pulse 84, regular.

The principal points of interest in these instances may be summed up thus:—

In all cases the pulse was invariably the first function to show any indication of the action of the drug. Generally, in from three to ten seconds the beats were much increased in frequency, whilst the flushing of the face did not commonly appear till from fifteen to thirty seconds after the commencement of the inhalation. The pulse-beats often rose from 70 to the rate of 160 per minute in a few seconds, quickly subsiding again as the drug was left off, but nearly always remaining somewhat irregular.

In the few cases in which sphygmographic tracings were made, it was found that in the very first stage of its action the upstroke produced by the contracting ventricle was almost imperceptible, giving unpleasant visions of approaching syncope. This feature was apparently due to the excessive rapidity of the heart's action, and was succeeded in a very few beats by a sudden and jerking impulse which gave no positive indication of anything more than an exaggeration of normal conditions.

The respirations were not altered in frequency, but in all cases, coincidently with the physiological action of flushing of the face, great inclination to cough was experienced with an indescribable feeling of fulness about the chest.

In full doses of eight or ten drops, the sight became impaired slightly, and the outline of objects hazy and indistinct. In only one of the experiments was the retina examined, the arteries of the optic disc being found small, while the veins were dilated and varicose. After *all*, a feeling of lassitude remained behind for thirty or forty minutes, and a dull aching remained in the head for some time longer. On several occasions, doses of three or four minims were inhaled twice and three times within a few minutes of each other, with no more permanent effect than an increased disinclination for muscular exertion, and more prolonged headache.

It now only remains to briefly compare these results with those obtained by previous observers, in order to ascertain in what points they agree and in what they differ. And first as to the action of the drug on the heart. It has long been known from Dr. Richardson's experiments on the frog's foot, that it causes dilatation of the capillaries. Now, if it acts thus in the human body, the acceleration of the heart's action which is produced would be a secondary occurrence depending on the suction action setting out from the actively dilating vessels. The inference I draw from the above experiments, however, is that there is a primary action on the heart itself; the pulse becoming quickened in the first place, the dilatation or "flushing" being afterwards noticed. This immediate action on the heart was also, I think, indicated by the sphygmograph.

If this is so, the drug would probably prove useful in cases of sudden failure of the heart's action, by whatever cause produced. Such a use of it was indeed suggested by Guthrie, in 1859, in the *Journal of the Chemical Society*.

Secondly, in the published cases of the action of nitrite in disease, a diminution in the frequency of the pulse has generally been noticed. Thus, in Dr. Brunton's paper,<sup>1</sup> he gives cases of angina pectoris, where under its influence the pulse, from being quick and small, became slow and full. The same thing was

<sup>1</sup> *Lancet*, vol. ii. 1867, p. 97.

noticed in a patient suffering from aortic disease and angina, an account of which was published by Dr. Wilks in the *Lancet* for January 16, 1869. In the case of a healthy person the opposite seems to hold good.

Lastly, Dr. Richardson has noticed that the nitrite produces paralysis and diminished muscular contractility. Under this head must be classed the muscular tremor and weakness, which remained in each of the experiments here recorded. Many other ideas suggest themselves concerning the value of such a remedy in various diseases, and as to its specific action in each. The facts must, however, be left to speak for themselves; but it should be borne in mind, when estimating the value of *these* observations as a guide for future practice, that they were conducted principally upon one individual, so that it is possible that any facts not noted by others may in this particular instance have been due to the drug when modified in its action by constitutional peculiarities.

## AN INQUIRY INTO THE CAUSES OF THE OCCASIONAL FAILURE OF THE OPERATION FOR SQUINT.<sup>1</sup>

BY W. SPENCER WATSON, F.R.C.S.

LOOKING to the apparent simplicity of the operation of division of the tendon of the rectus muscle, it would be very desirable, if possible, to avoid any failure whatever; and it is very probable that if the operation consisted simply in the division of this tendon, without reference to its anatomical relations and irrespective of its subsequent re-attachment to the eyeball, failure might be unknown and success inevitable. The mere tenotomy, however, is not the only condition of success. The operation may fail,—

I. From a misapprehension of the cause or pathological condition upon which the squint depends; or we may only discover one factor in the chain of causes, or essential co-existent conditions.

II. We may use the operation for improper cases.

III. We may operate imperfectly.

IV. We may treat the cases improperly after the operation.

I. Before the discovery of Dr. Donders, of Utrecht, of the close relation between hypermetropia and convergent squint, it was supposed by many that squint depended upon some mechanical restraint of the muscle involved, or on the existence of bands of fascia by which the eye was rotated inwardly and bound in that position.

Thus, Mr. Duffin has described the investing membranes of the muscles as almost cartilaginous.

Mr. Holthouse, at p. 97 of his *Treatise on Squint*, says that

<sup>1</sup> Read before the Medical Society of London, Nov. 28, 1870.

"shortening and structural degeneration may occur in the muscles affected in old-standing squint;" Professor Partridge gives a case in the Pathological Transactions, in which the internal rectus was "short, bulky, and had a much-thickened tendon;" and Dr. von Ammon describes thickenings and contractions of the muscles and abnormal bands of fascia passing from the eyeballs to the walls of the orbit. These cases, however, should be classed as instances of *luscitas*, or cases of persistent inversion or eversion, which differ from true squint by the immobility of the squinting eye.

Acting upon this theory, the tendon and supposed thickened bands were freely divided, with the conjunctiva and sub-conjunctival tissue. Great deformity resulted in many cases from the retraction of the caruncle, and in many others from the supervention of divergent squint. One of the cases of divergent strabismus following the operation for convergent came under my notice a short time ago, in which I believe the result was partly due to this imperfect appreciation of the cause, and consequent too free division; and in another, there was occasional divergence of the axes six years after an operation in a woman twenty-six years of age, who was also the subject of hypermetropia, but who had not been ordered to use glasses, and in whom the subsequent use of spectacles was very beneficial.

In the only case in which I have had the misfortune to have outward squint follow an operation for inward squint, the result was clearly not due to a want of an appreciation of the cause, but to a neglect of other precautions to which I shall subsequently allude.

I will here call attention to a condition of the retina which is often associated with hypermetropia and squint, and which may in some cases influence the result of operations. I do not wish, however, to depreciate the great importance of a recognition of the condition of hypermetropia, the neglect of which was, I believe, the cause of failure of the operation in three, if not in four of the cases; in two of these the hypermetropia amounting to one-tenth and one-ninth respectively, so that the same cause of convergence was in existence after the operation as before, and reproduced the same deformity.

I hold, with Professor Donders, that "hypermetropia causes



accommodative asthenopia to be actively overcome by strabismus convergens, and that myopia leads to muscular asthenopia passively yielding to strabismus divergens."

A more detailed account of his most valuable deductions would be out of place here, and can be referred to readily in the Sydenham Society's translation of his work on the subject.

It has been my practice in all cases of squint to examine the eyes affected by means of the ophthalmoscope, in order to ascertain how far the internal parts were organically affected. I have been quite surprised at the numerous instances of changed appearances in the retina, choroid and vitreous. In 27 cases out of 104, distinct deviations from the normal appearances of the intra-ocular tissues was observed. The appearances, however, were very diverse, and some were doubtless evidences of congenital defect, or changes due to inflammatory processes at some previous date. Those which have most attracted my attention were cases in which the optic nerve disc had a peculiar alteration of outline; so that instead of having a sharp, clear line of circumference, as in a healthy eye, the margin was very indistinct at one or other side, and in some cases in its whole circumference. This indistinctness of outline was on close inspection clearly due to remarkable enlargement and multiplication of the blood-vessels passing across from the centre of the nerve to the surrounding retina, the veins in these cases being especially full and prominent.

In other cases the indistinctness of outline appeared due to an abnormal paleness of the parts surrounding the optic nerve; so that the margin of the disc insensibly passed into the retinal surface. In others, again, the indistinctness of the outline of the disc appeared to be due to hyperæmia or capillary congestion of the disc, whereby the colour of it and the surrounding retina become uniform, but without any undue multiplication or prominence of the larger arterioles or venules.

All these conditions, though varying in minute details, point probably to one special cause, viz. post-ocular pressure; and I venture to explain them by supposing that in convergent squint the optic nerve and its vessels become abnormally twisted, and the blood consequently constricted at the entrance of the optic nerve into the eyeball. The circumstance that in some cases

the inner margin of the optic nerve, and in others the outer, shows the effects of this congestion most, while in others again the whole surface and the whole circumference are equally congested, does not materially affect the primary condition of the fact of constriction. It is clear that an accidental curve of the vein may be pressed upon at one or other side of the nerve, or the vein may pass at one or other side of the nerve at its entrance within the eye, in such a way that the congestion may show itself more strongly at the inner or outer side; and one deep branch may escape pressure or not from the mere accident of distribution. But the same indication of obstructive congestion is present in either case.

Probably, though I have only discovered changes of this kind in a comparatively small proportion of cases, there may have been many that were overlooked. The difficulty of ophthalmoscopic examination of squinting eyes is very great in the most favourable cases; but many cases occur which are far from favourable. Take for instance the case of a child of four years of age, with constant oscillation of the eyes from side to side, and a squint besides. These symptoms themselves indicate serious impairment of the retina and choroid; but it is almost impossible to get a clear view of these structures, from the ceaseless movements of the eyes. Somewhat less difficult is the case of a child with imperfect fixation, also a symptom indicative of retinal or choroidal changes, and yet, from the inability of the patient to fix his eyes on any object steadily, no distinct view of the fundus oculi can be obtained.

The constant occurrence of such cases, in addition to those in which ophthalmoscopic examinations have been possible, makes me think that changes such as I have described are more frequent than would be supposed from the numbers actually noted. If, therefore, my explanation of the cause of these changes is correct, the same theory ought to explain other phenomena connected with squint, or at any rate ought to be consistent with the co-existence of such phenomena. The theory ought, therefore, to explain the curious and sudden improvement in sight which occasionally takes place after the operation for squint.

The form of the hypermetropic eye being very different from

that of the normal and from that of the myopic eye, and this difference consisting in a shortening of its antero-posterior diameter, the centre of motion also is much further from the cornea than from the posterior pole; and in this respect also it differs from the other two forms. Now, the effect of the movement of an emmetropic eye inwards on its centre of motion which nearly corresponds to the centre of the eyeball, will be to draw the optic nerve outwards and a little backwards; and the effect will be that the nerve will, in extreme inversion of the eye, be brought slightly more towards the outer side of and to the posterior part of the orbit, and that the nerve itself will consequently be very slightly bent on the sclerotic. But if we compare with this the movement of the hypermetropic eye inwards, the effect on the optic nerve is to draw it also outwards and backwards, but at the same time the sclerotic at the inner side of the nerve comes into contact with it and must exert a certain amount of pressure upon it. On dividing the tendon the pressure is at once relieved, and unless organic change has been induced by its long continuance, there is no reason why the functional irritability of the nerve and retina should not be at once restored. I have never been able myself to verify the fact of this immediate restoration of function by actual tests, but patients have so often assured me spontaneously of the improvement of the sight of the squinting eye, that I can have no reasonable doubt of its being so, and the same observation has been made so often by other surgeons that it is hardly possible to doubt its truth.

It is therefore easily possible, without a most careful examination of the refraction and of the ophthalmoscopic appearances, to overlook the true causes of the squint in a given case, and hence to meet with failure and disappointment.

II. *We may employ the operation for improper cases.* For instance, the case may be one of apparent strabismus due to excentric fixation and an abnormal relation between the axis of the cornea, or optic axis, and the visual line. It has been shown by Donders that in some cases of hypermetropia we may have apparent strabismus divergens, from the visual line crossing the cornea considerably to the inner side of the

axis of the cornea, so that the patient, when looking at the observer, presents the appearance of divergence of the eyes, though really the lines connecting the two yellow spots of the retina were properly directed towards the objects observed. But from the fact of our being only able to judge of the direction of the eyes by the position of the centre of the cornea, the apparent strabismus may be mistaken for a true strabismus.

If, now, in such a case as this, the external recti were divided, the effect would be to cause troublesome diplopia; and in all probability this would last for some time, unless the muscle were able to restore the apparent strabismus by becoming re-attached near its former position.

So, again, in extreme myopia, an apparent convergence of the axes of the eyes is often seen, from the axis of the cornea being a good deal to the inner side of the visual line: and an operation in this case would be followed by diplopia.

Or it might be possible for a surgeon to be misled into operating for strabismus in a case of palsy of the external rectus which was of a curable kind: and in this case the result would probably be, that on the recovery of the power in the external rectus the squint would be divergent. This mistake is, however, very unlikely. In an old-standing case of palsy from which recovery could not be hoped for, the division of the internal rectus might be very properly performed with advantage.

III. *We may fail from operating improperly.* It is possible for a surgeon to spend ten minutes or a quarter of an hour (as I have myself seen) in a futile attempt to divide the internal rectus, and ultimately fail in doing so. The reason of this is, that after dividing the conjunctiva he does not open the capsule of Tenon before passing in the hook. He may consequently put the latter into the sub-conjunctival tissue and catch up a few fibres of the capsule, which he may divide by the scissors, but without dividing a single fibre of the tendon; the result is, of course, *nil*.

It is possible, as I have seen in two instances, and have known to occur in a third, for the surgeon to pass the hook, which has been made too sharp at the point, instead of being

rounded and lobbed, not only under the tendon, but actually through the sclerotic into the vitreous space. In two of these no harm resulted from this variation of the ordinary operation, but in the third case, blood was effused into the eyeball, and appeared in the anterior chamber, where it remained, when I saw the child about a year afterwards. The sight of the eye was of course destroyed, and the surgeon who operated was, as may be supposed, much distressed by the issue of the case. I believe that a similar accident has been known to occur from the use of scissors with sharp points, such as were used by Von Graefe in his operation. Still more serious accidents seem to have happened in the early operations. Mr. Duffin mentions that he has seen "sloughing of the eyeball and total loss of vision" follow. The same gentleman also mentions that "a girl was shown to him who had been operated upon, and whose eyes afterwards turned spasmodically in every possible direction. On inquiry it was found to be a case of chorea with intermittent squint." Mr. Lucas mentions that he has heard of abscess of the orbit forming after the operation. Such results as these are, I believe, quite unheard-of in the present day; and I have myself never seen the slightest inflammation of the orbital tissues or of the eyeball follow the operation as now performed.

Again, it is possible to divide a part of the tendon and yet leave a small band above or below undivided. This small band is sufficient to keep the eye inverted and to spoil the operation. In order to avoid this, it is well to pass a second hook through the conjunctival wound before removing the first, and to sweep it upwards and downwards along the inner side of the sclerotic, and so to make sure that there are no bands of tendon or fascia which have escaped division.

But the most serious mistake in the tenotomy of the rectus is to divide it so far away from its insertion into the sclerotic, and at the same time to divide the capsule so freely, that the muscle must inevitably retract within its sheath, and cannot become re-attached to the sclerotic either mediately or immediately. This was the result most likely to occur in the old operation as performed by Mr. Guthrie, who used to pass a curved director under the muscle and divide all the tissues superficial to it by

means of a knife, of a sickle or bistoury form. In this way the retraction was very great, and the result great retraction of the caruncle, and perhaps divergence of the eyes. But the re-union of the muscle to the sclerotic may fail from the repetition of the operation in a case in which the tendon has already retracted, and the muscle, being shorter and thicker than before, is also more powerful and acts more strongly. In the only case in which I have had a divergent squint following one of my operations for convergent, I believe that this was the cause of the failure. I had already divided both internal recti, after which, though the convergence was much less than before, it was still considerable; being, however, hurried, and perhaps rather fatigued, I neglected to take an accurate measure of the size of the squint, but trusting to a rough measurement with the eye, I decided to divide both recti a second time. I feel sure that had I taken a measure of the squint with the strabismometer, I should have found that the size of the squint was not more than 2", and that therefore only one further tenotomy was required. The result was decided divergence; and in the subsequent operation for readjusting the tendon, I found that it had not become re-attached to the sclerotic. The result of the third operation has been very satisfactory.

In producing the retraction of the caruncle, which gives a somewhat unsightly appearance, it is probable that a too free division of the lateral expansions of the ocular capsule, to which the tendon and its sheath are loosely attached, may have some influence.

IV. *We may treat the cases improperly after the operation.* This is a fruitful source of failure. Sometimes we have no choice. A first operation may have been partially successful, and a second may be required; but the patient or his friends object to further operation; hence the case is put down as one of failure. Two of my failures were due to this cause, or at least partly so. Or the operation may fail from the neglect of the use of spectacles, in order to correct the hypermetropia or astigmatism, or both, with which the strabismus is intimately associated. Three of my cases may be presumably said to have failed from this cause, hypermetropia equal to  $\frac{1}{4}$ th and  $\frac{1}{8}$ th

and 3<sup>rd</sup> being known to exist in them, but having been from various causes left uncorrected. In all three of these cases the patients were of ages varying from 11 years to 15 years; at an age, therefore, at which the eyes would be constantly in use in reading, writing, &c., and when the overstrained accommodation would have a strong tendency to yield to convergent squint.

In one other case occasional divergence of the eyes and occasional diplopia six years after the operation were associated with hypermetropia, and great defect of vision in one eye. I was not the operator in this case, but think that the case is one in which the use of glasses soon after the operation might have prevented the symptoms referred to.

Another cause of an imperfect result is the practice of covering up the eye operated on for a week or more after the operation. If the immediate effect of the operation has been too great, or threatens to be too great, it will be of advantage to keep the eye covered, as thereby the tendon of the muscle has a better chance of becoming re-attached to the sclerotic far enough forwards; but if the effect is only just sufficient, or not sufficient, it is better to encourage the use of the eye immediately after the division of the tendon; and, except in very severe weather, no covering or dressing is required after the subconjunctival operation.

*An Analysis of 103 Cases of Convergent Strabismus.*

Age, under 30 years, in . . . . .	100
„ over 30 and under 36 years, in . . . . .	3
Total . . . . .	103

Family tendency traced in about 10 cases.

Hypermetropia in one or both eyes . . . . .	69
Myopia in one eye associated with hypermetropia in its fellow . . . . .	2
Myopia in both eyes . . . . .	3
	5

Amblyopia due to intra-ocular causes, as ascertained by the ophthalmoscope, or inferred from symptoms, such as nystagmus, in . . . . .

Amblyopia due to nebulae of the cornea or leucomata . . . . . 7

Amblyopia due to unascertained causes, some probably from astigmatism, and others from disuse of the squinting eye . . . . . 19

## 26 OCCASIONAL FAILURE OF THE OPERATION FOR SQUINT.

### *Analysis of Cases operated on for Convergent Strabismus.*

Results of operations in 99 out of 103 cases ; the operation being deferred or declined in four cases :—

One eye operated on in 38 cases . . . . .	38	
(Good results, 36.)		
Both eyes operated on at one sitting, in . . . . .	44	
Both eyes operated on, with an interval between the first and second operations, in . . . . .	13	
Notes deficient as to whether one or both recti were divided, in . . . .	4	
Total cases . . . . .	99	
<hr/>		
Successful result, in . . . . .	73	
Partially successful result, in . . . . .	12	
Slight improvement, in . . . . .	4	
		89
Divergent squint (subsequently corrected), in . . . . .	3	
Results not known, in . . . . .	7	
		10
Total . . . . .	99	



## THE HIMALAYAS AS A HEALTH RESORT.

*Being a Medical Report to accompany the Annual Return of a Detachment of the 88th Regiment, employed as a working party on the Murree and Abbottabad Road, during the hot season of 1869.*

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*Historical Sketch.*—It having been determined to send a party of the 88th Regiment to the hills, for the purpose of being employed in the construction of a road between Murree (the now well-known sanitarium of the Punjab) and Abbottabad, the military capital of Huzara, five officers and ninety-nine men left Nowshera with that view on March 22, and arrived at their destination, at Camp Baugnotur, on the 8th of the following month. The march up tended to improve the health and cheer the spirits of the men, somewhat depressed by the malarious climate of Peshawur, and though considerable exposure and inconvenience were experienced in crossing the Hurree and Dore rivers, these quickly disappeared, and fatigue was easily borne or soon forgotten in sight of the snow and under the bracing atmosphere of the higher ranges. The transition was indeed most agreeable from the dreary monotony and daily increasing temperature of the plains, to the striking scenery and colder nights of the hills; and the passage of the rivers just named, which were, at the time referred to, furious torrents, swollen by the melting of the snow in the adjacent mountains—though fraught, in the absence of elephants, with considerable risk to the weaker men—served to diversify the tedium of an ordinary march, and encourage emulation on the

part of their healthier brethren. All profited by the agreeable change, and reached their camp in a frame of mind and a condition of excitement and anticipation which augured well for the continuance of their health and the progress of the work in which they were subsequently engaged. When they left the hills, on the 27th October, the improvement in their appearance was very striking; and even now,<sup>1</sup> the difference between their bearing and expression, and the sickly pallid hue and attenuated frames of those of their comrades who were kept in the plains, is obvious to all. As this Report is intended to describe, however imperfectly, the prominent features of a Himalayan climate, and illustrate its suitability for English domicile and occupation, I will not adhere very rigidly in drawing it up to the order prescribed in the Regulations, but, while keeping their more special requirements in view, will rather dwell upon those points which engaged my own attention, and by comparison endeavour to point out the advantages which it affords as a residence to the European soldiers in India.

*Geological Formation and Physical Geography.*—The great Himalayan chain of mountains, extending as it does from the defile through which the Indus escapes into the Punjaub, at Attock, and which separates it from the Hindoo Koosh and the mountains of Afghanistan on the north-west, to the sources of the Dihong and Brahmapootra on the east, extends over 22 degrees of longitude, and includes, as may be easily conceived, a great variety of soil, vegetation, and climate. It also contains diversities of race and religion as striking and distinctive as those which exist between the sunburnt Spaniard of the south and the hardy Highlander of Scotland; and the natural history, languages, and characteristics of its inhabitants afford a field of speculation to the curious inquirer which he could scarcely hope to exhaust in a lifetime. With some of these features we have no concern here, in others only a passing interest; and while the stony and treeless plains of Ladak and Thibet are scorched by a sun which absorbs every particle of moisture and tantalizes the weary traveller with fantastic pictures of scenery that resemble the mirage of the desert, the mountain ridges of Sikhim are still covered by their primeval forests, and the slopes

<sup>1</sup> Written in January 1870.

of the Dhoon give rise to a vegetation which is all but tropical in its variety and productiveness. In point of geological conformation there are no very striking peculiarities. Along the lines of greatest elevation, veins of granite which penetrate the schists and most frequently follow the bedding of the strata between which they seem to have been forced, are commonly found, and the great peaks are generally composed of schistose rocks, gneiss, and clay-slate. In the range to which we were confined, and which varies in elevation from 4,800 feet at Baugnotur to 8,000 feet at Kungagully, limestone is the rock most frequently met with, but clay-slate and schistose formations are not uncommon, and a black mould, the result of the disintegration of the pine forests, forms the base of the depressions through which the rain-water finds its way to the Indus. Stiff clay and loam are also found, and the upheaval of the strata has been everywhere irregular and successive. There is, in consequence, great irregularity of surface throughout the entire range; the road, cut out to a breadth of fifteen feet from the rock on its southern aspect, is protected by its situation against cold blasts from the snowy range on the north, and the scenery is everywhere picturesque and striking. The sloping and precipitous nature of the ground does not admit of any stagnation of water, and there are no lakes or marshes in the vicinity. The range runs east and west, with an inclination, at its eastern end, towards Murree, and it is so far back as to be protected by intervening ranges from the hot winds of the plains.

*Water.*—Water descending from the superincumbent hill, and purified by percolation through beds of shingle or limestone grit, abounds everywhere, and is usually so pure as to require no purification. I can, however, testify from personal experience that its sole use often produces diarrhœa, but this only obtains to any serious extent during the rains—when vegetable *débris* and other filth are washed into the springs—and, as a rule, it is as clear as crystal, free from deposit, and sparkling and agreeable as a beverage. It does not appear to disagree with the inhabitants of the district; and though cataract, goitre, necrosis, and calculus vesicæ are common in the neighbouring valleys of Monseerah and Abbottabad, these conditions are probably due to the greater prevalence of limestone formation, to a more

copious use of snow-water by the people, or to some other local peculiarity of soil or climate unknown to me. The water is collected in tubs, so disposed at the mouth of the springs that one is filled from the overflow of the other, and no trouble was experienced in filling at these the skins in which it was conveyed by mules to the camps. It was estimated that six gallons a head could be easily provided each day; a large stone trough or cistern has been erected for its storage at Nutteagully, and no representations of any kind were ever made to me respecting its supply.

*Vegetation.*—Magnificent pine forests clothe the southern slopes of the hills, while the northern ones are bare or sparsely covered with stunted fir and other shrubs; and the vegetation, though copious, rarely loses its vitality, and scarcely ever generates malaria. From this it may be easily inferred that water is abundant, and such indeed is the case, as small perennial springs escape here and there from the sides of the mountain, and two or more larger ones converge towards the Dore, and help to form the watershed of the district. Among the commoner trees may be enumerated the paloonder (*Abies excelsa*), the byar (*Pinus excelsa*), the cheer (*Pinus longifolia*), some specimens of hill-oak, horse-chestnut, sycamore, walnut, and yew. The deodar (*Cedrus deodorus*) is occasionally seen, and wild olive, wild cherry, ilex, and parasitic mistletoe are found on exposed projections. The rainy season generally begins early in July, and ought to end about the middle of September; but seasons vary very much, and I have heard it said that the rainfall has diminished everywhere throughout the hills since the timber began to be used so extensively by Europeans for building purposes. The fall at Murree is said to vary between 40 and 60 inches in the six months, but it must be heavier than this in the interior, and I had no means of gauging its amount anywhere. I did not inquire minutely into the botany of the district, as it never occurred to me that I should be called upon for a Report of this kind; but that is of little consequence, as I did not notice much divergence in character or quality between Himalayan plants and those that are met with elsewhere, and the orders *Labiatae* and *Malvaceae* were those that most frequently caught the eye. The *Cruciferae* are also met with on

higher ranges ; sage and mint are very common, and the familiar face of the wild rose meets one now and then in sheltered nooks and corners.

*Diseases.*—Diseases of the zymotic class, though by no means unknown, are yet of rare occurrence in the hills, and when they prevail they are of a milder character than their congeners in the plains. Small-pox, however, appears to be an exception to this rule, and it is by no means uncommon to meet hill-men who have lost an eye by it, or who bear on their faces indelible marks of its ravages. Of febrile affections, the most common is that to which the inhabitants of the lower valleys are subject during and after the rains—when they are covered for miles together by dense masses of clouds, and when the air is literally saturated with moisture ; and this frequently terminates in a well-defined ague of the tertian type, and rarely calls for treatment. Indeed, there is none at hand in nine cases out of ten, and when a *baid*, or doctor, appears, he usually contents himself with reciting a prayer of exorcism, or administering some spicy confection, made of black pepper, ginger, cherries, or cloves. Measles and other eruptive fevers also prevail, but to a limited extent, and the inhabitants of the remoter districts recognize the advantages of quarantine ; and inoculation and the actual cautery are everywhere looked upon as sovereign remedies for all ailments by the simple mountaineers. Next in frequency come diseases of the bowels ; and dyspepsia, aggravated by constipation, and frequently followed by diarrhoea, is much complained of. Dysentery is rarely met, but colic is very common and not unfrequently fatal, and I have heard of deaths occurring among the hill-men under circumstances and with symptoms which clearly pointed to the agency of acute gastritis. Hepatic derangements, with or without dropsy or jaundice, are rarely seen. Diseases of the heart are almost unknown, and in all my wanderings in the Himalayas I never met an instance of heart disease which could be fairly ascribed to the influence of elevation or the laborious pursuits of the hill coolies. Bronchitis and asthma are sometimes associated with the debility of advancing years, but they generally appear under a sub-acute or chronic garb ; and consumption, as seen among us, is almost unheard of. The same may be said of epilepsy, paralysis, and insanity ; and

it is almost needless to add that those diatheses and dyscrasiæ which so frequently follow the march of intellect and the struggles for bread elsewhere, are entirely absent from the secluded and half-savage villages of the Himalayas. Bronchocele, cretinism, and goitre prevail in the higher regions, but they are not due, as is commonly supposed, to the use of snow-water—for they abound equally where snow-water is not used—but are, like leprosy, due to hereditary predisposition and other depressing local influences. Ophthalmia and skin diseases, including itch, are very common. Calculus vesicæ is also found, and one constantly meets instances of what may be called, for want of a more scientific designation, “born fools.” Instances of congenital deficiency or abnormal growth are also found. Persons mutilated by the ravages of leprosy are frequently met with; and when I add that rheumatism among men and menorrhagia among women are emphatically the diseases of the hills, I have, I believe, exhausted the long list of ills to which that otherwise favoured region is heir.

*Productions.*—The productions of the locality in which we resided consist of maize, barley, buckwheat, dhal, Indian corn, and sugar-cane in small quantities. The potato, that most valuable of esculents, finds here its favourite home, and every available patch of cultivated ground is terraced and prepared for its production: the out-turn is good and the quality first-rate, and neighbouring stations draw the greater part of their supplies from this district. It was greatly relished by the men, and I have no doubt that cabbages, cauliflower, turnips, &c., could be “raised” there in large quantity, and of a quality scarcely if at all inferior to the above. They are so “raised” at Murree and Abbottabad; and the presence of the wild vine, whose slender stem is seen here and there gracefully twining round larger trees, shows that the grape might be cultivated with little attention in the same locality. Milk, butter, cheese, can be obtained in abundance from the Googhurs—a primitive race of Mahomedan nomads, who feed their flocks wherever pasturage can be found in the vicinity; and I make no doubt but that fowls, eggs, and other culinary supplies would be forthcoming were the demand for them sufficiently remunerative, or were soldiers permanently settled near this road. Apples from Cashmere and

grapes from Huzara will always be procurable for a small sum, and the people are a mild and submissive race, who bear fatigue without repining and are satisfied with a very moderate return for their labour. They are chiefly Mahomedans of the Googhur caste and Pathan tribe; but sturdy coolies from Cabul and Cashmere are employed in large numbers on the works, and I have often listened with interest and astonishment to the classic tongue of Persia, the guttural Pukthoo, and soft *patois* of Cashmere, as they were spoken by the same group and replied to in the common vernacular of Hindostan, or the almost incomprehensible jargon of Muzara. Like most hill-men, the inhabitants of the district are very sparing of their speech, and dispense altogether with the circumlocution and bombast of the plains. Having few ideas, they express their wants, in great part, by signs: they appear to put a world of meaning into a noisy grunt or an uncouth gesture, and reserve the greater part of their spoken language for purposes of traffic or disputation.

*Barracks.*—The men lived for three-fourths of the season at Baugnotur, Kungagully, and Gah, in tents such as are used everywhere in India, and which call for no special description here. They are not overcrowded at any time, but though I recommended more than once the use of boards for beds to lie on, they were not supplied, and the men themselves had to extemporise such makeshifts as their own ingenuity could contrive, or as the materials within reach would allow. The party moved into huts at Kalabagh on or about the 1st of July, in obedience to an order to that effect issued by the major-general commanding the Jhelum division, and in anticipation of the rains; and the change from tent-life to the more stable shelter of a hut was agreeable to all. These huts, which are roughly but firmly built of boards of split pine, that overlap one another on the sides and are covered with shingle overhead, are irregularly situated on a spur of a hill about five acres in extent, which looks towards Hurreepore, and which is so conical and precipitous on its southern aspect as to be fitted for an encampment. They were calculated to contain thirty-four men each, and their elevation, the material of which they were composed, their large doors and fireplaces, left nothing to be desired on the score of ventilation. They are provided with stone chimneys and fire-

places ; wood was supplied for firing by the commissariat during the rains, and I never received any complaints of leakage or other defect on their part, from my charge. They were said, by previous occupants, to be infested with fleas, but I experienced no inconvenience in my own person from these creatures, nor did I hear of any uneasiness being caused by them to others. A wooden flooring would, however, be a great advantage to these structures, and a portico over the doors outside, and the use of paper or other coating within would add materially to their comfort and appearance. The hospital, made up of similar materials, occupied the extreme end of the spur: the position was good and salubrious, and the accommodation ample and sufficient.

*Baths and Latrines.*—Of these little need be said, as they were for the most part mere temporary erections, put up by the men themselves for temporary purposes. The latrines were, as is usual everywhere in India, emptied by hand. I employed the dry-earth system as far as was practicable under the circumstances, and I can testify that it answered its object well, and that there was no foul odour or accumulation at any time in the vicinity.

*Cooking Utensils, Rations, and Kitchens.*—The rations were cooked in the usual manner, in copper vessels, carefully tinned twice a month, and consisted of 1lb. of bread, 1lb. of beef or mutton. (the latter being allowed on Sundays only whilst the beef supply was available), 4oz. of rice,  $2\frac{1}{2}$ oz. of sugar, 4oz. of tea,  $\frac{3}{4}$ oz. of salt, and vegetables 1lb. daily as long as they could be procured. They failed, however, about the beginning of September, and were then replaced by dhal and pumpkin. The beef, though wholesome, was often lean and underfed, and representations to this effect were made from time to time by myself, but they did not produce much effect; and when this article failed altogether, towards the middle of August, mutton had to be substituted for it. Preserved meat and vegetables were allowed at the same time; but while the former, sodden and tasteless as it was, was not much appreciated by the men, all relished the vegetables, and especially the carrots, and I cannot help saying that I think a more extended trial of these would be advisable everywhere in the Punjaub. In the few instances in



which the *Cysticercus cellulosæ* was found, the carcasses were destroyed ; and good country bacon could be procured, on reasonable terms, from a Murree dealer who occasionally visited the camps. Bread of excellent quality was made in the bakeries attached to each encampment, and the diets were fried, boiled, or stewed as the taste and appliances of the cooks or their customers allowed or suggested. The breakfasts cooked in camp or by the wayside, as the distance of the works or the state of the weather allowed, were brought to the men on the road, and the half-hour allowed for its consumption was much enjoyed by all. It is only necessary to add, that the kitchens were mere sheds that remained standing from previous years, or were hastily put up by ourselves in the manner already described ; and, in addition to the fruits mentioned above, apricots and walnuts were obtainable from trees hard by. The hospital diets were of good quality, and I had no occasion to modify or supplement the scale prescribed by regulation at any time.

*Bedding and Clothing.*—As stated above, the men were not provided with cots of any kind while in tents, but straw was supplied whenever practicable ; I gave as many doolies as I could spare to the weaker men, and the others extemporized frames as best they could from the materials at hand. Two stout boards were assigned to each man in the huts at Kalabagh, and these, when properly adjusted on uprights supported on wooden beams, and raised about two feet from the ground, afforded ample space to each man. The bedding consisted of a *selita*, or canvas rug, which was used as a mattress, a padded cotton quilt, a black blanket, sheets, &c., and these of course could be supplemented at any time by the great-coat. I never heard any complaints of its insufficiency ; but as the temperature varies so much, especially during the rains, a larger supply would certainly be desirable. A waterproof sheet would greatly enhance the value of the above ; and I believe that pieces of waterproof covering, so contrived as to be convertible at will into a cape or cloak, would be a great acquisition to the soldier's kit everywhere in the Himalayas. When it rains in the hills it pours ; the ordinary great-coat is saturated in a moment ; and my experience in the Huzara campaign tells me that Europeans should never be sent in large numbers to the hills, for purposes of duty

or service, without it. For the rest, the men were provided at a cost of Rs. 4 with a working suit of rough cashmere cloth which they wore on the road, and this could at any time be repaired or replaced from the stores procurable from native dealers.

*Duty, Drills, and Gymnastics.*—The military duties performed by the troops were little more than nominal, and the same may be said of their drills. The work on the road demanded a greater strain, and exercised or occupied their attention for six hours daily. During these hours they worked in squads or batches, under the supervision of their officers or sergeants, and were engaged, according to their intelligence or capacity, in blasting or mining, felling trees, removing *débris*, or otherwise clearing away obstructions from the sides of the hill. The work, though severe, was never depressing; emulation stimulated exertion, sharpened appetite, and alleviated the sense of fatigue; and dulness itself must confess that the scenery was striking and attractive, that the air was soft and balmy, and that there was an entire absence of that languor and *ennui* which are so common in the plains. There was no gymnastic apparatus, but the men played at quoits, putting shot, and other rustic games. They also got up "striking" or "boring" matches among themselves, foot races, and the like, and such as preferred shooting or long walks into the interior were freely allowed to gratify their tastes.

*Canteen Supplies, Intemperance, and Crime.*—The rum and malt liquor supplied by the commissariat were of good quality, and greatly appreciated by the men. The former, manufactured at Rosa factory, near Shahjehanpore, is the same as that used throughout all the provinces of Upper India, and, though not equal in flavour or body to good Jamaica rum, is yet a rich and pure spirit, and it is unquestionably much in request among soldiers. The malt liquor was obtained from the brewery near Murree, and appeared to "stand" transit and motion better than the English beer. Though not so strong or full-bodied as the home-brewed article, it is, I think, equally palatable, and certainly more digestible, and the cost in our camp was less than a third of that imported from England. Each man was allowed one quart of beer and one dram of rum

(3oz.) daily, and these can scarcely be said to be too much for a man employed for six hours a day in a hill climate. There was very little intemperance, as there were no grog-shops in the vicinity; serious crime of any kind was conspicuous by its absence, and there were only three cases of admission from enthetic disease during the period of our stay.

*Vaccination and Small-pox.*—The men had been previously vaccinated, and there was no small-pox in the vicinity during the time we were engaged on the works.

*Returns.*—The following return, which shows the admissions from all causes during the season, though somewhat higher than the average obtained under similar circumstances on previous occasions, is yet favourable to the views enunciated above; and compared with that of an equal body in the plains, it affords striking evidence of the value of the change. Several of the men were more suited for a sanitarium than for a working party, and the influence of a ten months' residence in the sickly valley of Peshawur should have its due weight as an element in the calculation.<sup>1</sup>

Order.	Diseases.	Admitted.	Died.	Rates per 1,000.	
				Admitted.	Died.
CLASS I.					
I.	Miasmatic . . . . .	24	—	243·80	—
II.	Enthetic . . . . .	3	—	30·47	—
CLASS III.					
II.	Nervous . . . . .	1	—	10·15	—
	Respiratory . . . . .	5	—	52·72	—
	Digestive . . . . .	3	—	30·47	—
	Urinary . . . . .	4	1	40·63	10·15
	Integumentary . . . . .	1	—	10·15	—
	Locomotive . . . . .	1	—	10·15	—
CLASS V.					
I.	Accidental . . . . .	9	—	91·42	—
	Total . . . . .	51	1	518·08	10·15

<sup>1</sup> The following table, based upon authentic documents and drawn up for the purpose of comparing the results obtained by a residence of similar though unequal bodies of men, in the hills, with those realized at the same time in the

The proportion which admissions from zymotic disease bore to admissions from all other causes, is given in the table subjoined :

Disease. .	Admitted.	Died.	Rates per 1,000.	
			Admitted.	Died.
Zymotic disease . . . . .	27	—	274·27	—
Other diseases . . . . .	24	1	243·80	10·15
Total . . . . .	51	1	518·07	10·15

plains, will perhaps show this better than that given in the text, as the "strengths" in both cases are supposed to be annual ones. The figures 38·44 and 706·00 must be taken as what the strength in each case would be if spread out over a period of fifty-two weeks :—

Average strength of Working Party.	Admissions.	Deaths.	Rate per 1,000 of Admissions to Strength.
38·44	51	1	518·08
Average strength of Head-quarters at Nowshera.	Admissions.	Deaths.	Rate per 1,000 of Admissions to Strength.
706·00	1,565	32	2214·60

As further evidence in this direction, the prevailing diseases and average rate of daily sick may be quoted ; and I will only add, that the fever which attained in my charge was very different from and altogether milder than that which prevailed at Nowshera.

The prevailing disease in working party was ague, of which there were 18 cases in all, some of which were fatal. Ague was also the prevailing disease at Nowshera, and proved fatal in three cases *at least* ; and while the average daily sick of the working party did not exceed 2·81, that of the head-quarters in the plains reached the high figure of 37·42. Again, the mortality among 100 men in the hills, under my care, amounted only to a fractional part of that which obtained in the same corps in the plains, and was even then due to an incurable disease which, if diagnosed in time, ought never to have been sent there. The deaths which took place in the plains amounted to thirty-two, and were, in the main, as will appear from the following enumeration, due to preventible causes. They were—from diphtheria, 1 ; bronchitis, 2 ; febris continua, 2 ; secondary syphilis, 1 ; dysentery, 3 ; febris enteric, 1 ; congestive apoplexy, 1 ; suicide, 2 ; cholera, 2 ; del. tremens, 1 ; aneurisma aortæ, 2 ; hepatitis, 2 ; phth. pulm., 6 ; enteritis, 1 ; ague, 3 ; hepatic abscess, 1 ; pneumonia, 1.

The only case of death that calls for record here is that of No. 351. Private Daniel Fogarty, aged 29, eleven years' service, ten of which have been passed in India, was admitted on the 8th of August, 1869, under the head of Rheumatism, with a swollen and painful condition of both knees and right ankle, and considerable irritability of the stomach. The former was relieved by the use of fomentations, followed by blisters, and the latter yielded, after the exhibition of an emetic, to the influence of rest, sinapisms to epigastrium and the exhibition of effervescing draughts containing prussic acid. The pain and swelling returned at a later period, and gave rise to much suffering and depression, from which, however, he soon rallied; and as the disease appeared to be complicated with a gouty element and aguish tendency, a mixture containing iodide of potassium, colchicum, and arsenic was prescribed, the diet was regulated according to his taste and capacity, and he was allowed stimulants in small quantities; soothing liniments and fomentations were at the same time applied to the joints, and rest was procured through Dover's powder and other anodynes. He was described on the 20th of the same month as still complaining of pain in the joints, but the pulse, though weak, was quiet and fairly rhythmical, and the skin was cool and free from clamminess or moisture. Finding that they did not remain so—that, on the contrary, depression and irritability increased, that the tongue became dry and furred, and that he was troubled with nausea and chills, I again subjected him to a careful examination, and satisfied myself on the 26th of the month, with such imperfect appliances as I had at command, that the urine was highly albuminous and that the kidneys were gravely if not irreparably implicated. This impression was converted into a certainty two days subsequently, and the description was changed accordingly to "Bright's Disease." He lost flesh perceptibly in the meantime, the pulse became small, feeble, and thready, the tongue assumed a dry leathery feel, and his appearance was sallow and waxy. The bladder refused to act on the 29th, and a catheter found it nearly empty. The kidneys were clearly giving way, and to add to his sufferings a bed-sore appeared over the sacrum, and diarrhœa threatened to precipitate the result. He was much weaker on the morning of the 30th, and though support of

every kind was freely administered, he lost ground apace, and died suddenly after an attack of rigors about 1 P.M. of the same date.

Post-mortem eight hours after death. Body emaciated, skin shrivelled and discoloured, and the rigor, though persistent, was slight. Head not examined. Chest: lungs structurally healthy, but very much adherent on left side; heart weighed 5oz., was soft and flabby, and disposed to fattiness on its free surface. On closer examination, semi-organized masses of fibrine were found blocking up the larger openings, adhering to the chordæ tendineæ and margin of mitral valve, and almost obliterating cavity of right auricle. Liver weighed 4lb. 5oz., was dense to the touch; of the slaty green hue so frequently found associated with the poison of malaria, and congested internally. Kidneys enlarged, lobulated, and granular: on the surface were found, on section, to have undergone considerable fatty transformations. The left, which weighed 10oz., was the worse of the two; the right weighed nearly 9oz. and exhibited less disease, but they were in each case the subjects of rapidly progressive change, and both were in a condition which was incompatible with the discharge of their functions or the enjoyment of life.

*General Summary and Conclusion.*—In bringing this Report to a close, I feel that I can afford to deal summarily with many of the points usually included with more or less detail in the Annual Return, and content myself with a hasty glance at the items referred to at page 110 of the Medical Regulations. Many of these did not exist at all, or were so modified by the locality as to lose much of their special significance and interest, or be altogether unfitted for minute criticism or comment in this place. The summer temperature<sup>1</sup> of the hills is usually so mild, that one might pass the greater part of the day, and the night too, with impunity in the open air; and there was very little need for ventilation, and none for drainage, in tents open to all the winds of heaven, and in huts suspended as it were in space, and protected by the nature of the ground on which they stood from the influence of marshy or other emanations. The rays of the sun are tempered by the ever-

<sup>1</sup> The table subjoined will so clearly show the difference, as to dispense me from the necessity of going into further details on the subject. It is, however, only

grateful shade of trees, the bubbling of mountain streams adds variety to the scene, and the cold blasts that come from the snowy peaks of the Peer-Punjaub moderate the heat at mid-day, and make the night and morning most enjoyable. The diet, though monotonous, was on the whole sufficient, but it might be easily varied, as vegetables and fruit grow readily, or could be easily procured, in the hills; and should the Government determine on occupying the range here referred to, supplies of all kinds would, I am sure, be forthcoming in abundance. The palatial structures of the plains might be entirely dispensed with, or mainly superseded by erections that could ward off the summer's heat and the winter's cold, with equal effect at a tenth of the cost, and at the same time maintain the vigour of mind and body throughout both. The experience of the present as well as of past years fully confirms this, and working parties, which were formerly an experiment, have now become an institution. I cannot refuse myself the gratification of hoping that when a railway is completed from Lahore to Peshawur, a branch will be run up from Rawul Pindee or Hussien Abdal to Murree or Abbottabad; and that the troops who now languish on the burning sands of Attock and Syden Bowlie, or who are racked with malaria or decimated by cholera in the great valley beyond the

fair to add, that the summer of 1869 was an exceptionally hot one everywhere in India.

Month.	Meteorological detail of Working Party.				Remarks.
	Highest.	Lowest.	Mean of Highest.	Mean of Lowest.	
June . . . .	76	53	67	53	} Taken, in every instance, in the shade.
July . . . .	79	58	70	63	
August . . .	79	56	70	61	
September . .	80	56	68	61	
Month.	Meteorological detail of Head-quarters.				Remarks.
	Highest.	Lowest.	Mean of Highest.	Mean of Lowest.	
June . . . .	97	74	91	86	} Taken, in every instance, in the shade.
July . . . .	103	91	96	91	
August . . .	99	77	92	86	
September . .	101	99	91	85	

Indus, will be transferred wholly or in great part to the locality described above. There is room enough for them and to spare; and were more Europeans situated in the hills, we should not have to deplore the periodical recurrence of horrors similar to those lately enacted at Peshawur and Allahabad.

Mountain ranges have ever been the nursing mothers of soldiers. Every writer who has written on the subject, or left the impress of his genius on posterity, from Tacitus and Cæsar down to Montesquieu and Hume, to Gibbon and Buckle, has testified to the value of climate in the formation of character and the development of those qualities which constitute the soldier. A mountain climate gives strength to the muscle and tone to the fibre; and those Scotch and Irish soldiers who constitute so large a portion of the British army, would find in the Himalayas a soil and sky not much different from their own, they would here feed upon food and vegetables like those they were accustomed to at home, and be brought into daily contact with a simple race, of primitive tastes and patient endurance, who delight in the sound of a pipe which closely resembles the wild minstrelsy of their own native glens.

There is another point, in connection with this subject, which appears to me to have been strangely overlooked, but which so repeatedly thrust itself on my consideration in the hills, that I cannot help alluding to it here;—I allude to the elevating influence of mountain scenery on the mind, and to that buoyancy and exhilaration, amounting in some instances to actual inspiration, which it produces. If I might interpret the feelings of others by my own, I would say that they were of a very chastening character,—akin, indeed, to those of reverence and admiration; and there is no doubt that the power exercised by Nature and her outward forms over men, is incomparably greater than is commonly supposed. I was often pleased to see that soldiers even felt this power, and that many of them were influenced accordingly.

The hills are not, of course, a panacea for all the ills that flesh is heir to: there are, on the contrary, many cases which would do better in the plains; and the poor man whose case I have summarized above, told me more than once that he had not enjoyed a day's health since he came to them. I have heard similar complaints from others, and it may be laid down as a



rule, from which there are few exceptions, that patients suffering from organic disease of any description are rarely benefited by a change to the hills. The same may be said—with, of course, some modification—of persons of a relaxed habit, whose bowels are habitually loose; and it is within my own experience that a tendency towards hypochondriasis and dyspepsia is often aggravated by a residence in the Himalayas. Women often suffer from menorrhagia and partial prolapse in the hills, who are quite free from these ailments in the plains; and I could name several children, in this regiment alone, who contracted marasmus at Clifton, near Murree. When stationed at Rawul Pindie, I saw it enjoined “in orders,” on the recommendation of the then Deputy Inspector-General of Hospitals, that “medical officers should abstain from selecting cases of rheumatism—syphilitic or constitutional—for the depôt at Murree; pulmonary diseases (including especially asthma and bronchitis), dysentery, or diarrhoea, and anything like organic disease of the brain;” and there can be no doubt that a hill-climate is not, as a rule, favourable to recovery from some or all of these ailments. On the contrary, the former are often aggravated by the rarefied temperature, cold nights, and often foggy condition of the atmosphere during the rains; and the latter are not unfrequently rendered chronic or altogether incurable by the same agencies. But with these exceptions (and the exceptions are happily so few as to admit of easy isolation), the climate of the hills is eminently favourable to the constitution and habits of the European soldier, and the surprise is that it has not been turned to better account in the past. I am not, of course, competent to estimate the value of the strategic reasons which induce the Government to keep so many soldiers in the plains, nor would it, perhaps, be quite consistent with the duty I owe it to criticise its conduct or question its motives for doing so. As a sanitarian, however, and speaking on behalf of my own particular charge, and in the best interests of the public, I cannot help saying that it is, in my opinion, matter for deep regret that British troops are not more largely massed or employed in the hills, and this too is the view of every one, conversant with the subject, with whom I have spoken. An intelligent friend who has resided many years in the interior, and whose experience is undoubted, says, in reply to a question in this direction lately addressed to him

by myself: "About the advantages of locating European soldiers in the hills there can be no question at all. In after days it will be a matter of wonder to the historian of British India that we should so long have neglected the Himalayas. The whole range seems placed by Providence to render the government of the country by a people of a cold region a matter of ease, and our neglect seems just throwing away the good gifts of God." Such, truly, seems to be the fact; and the concentration of troops near filthy bazaars, from which disease is rarely absent, in presence of the glorious ranges that stare us in the face and woo them, as it were, with healing breezes to their arms, looks like a tempting of Providence and an abnegation of the plainest dictates of reason and common sense. But it is unnecessary to pursue the subject any further: its merits have been illustrated by far abler pens than mine, and it is high time to bring this already too lengthy paper to a close. The authorities have certainly done a great deal for the soldier out here, but they have not done all, and the edifice can only be considered complete when it is erected in the hills, under a sky like his own, and amid scenes which tend to recall the associations of his home and remind him of earlier and happier days. The soldier is not, as a rule, a deeply read or a very reflecting individual; he arrives in this country at a time when his passions have attained their fullest development, and he is usually fond of out-door exercise and animal enjoyment. These he can only secure in a dangerous form and with considerable risk in the plains, but they are the very means by which he may attain and perpetuate health in the hills; and if the Government of India wish to mitigate the horrors of epidemic disease and maintain unimpaired the stamina of their soldiers in this country, they ought to gather wisdom from the experience of the past, and look to the Himalayas, and to them alone, for the means of disarming the one and adding vigour and permanence to the other.

[In order to insert this still too lengthy paper we were obliged to abridge it much, and we regret to have been compelled to sacrifice some notes containing important corroborative evidence on several points. Our inserting so long a paper at all must be understood to be an exceptional course which we take with a view to encourage foreign correspondents to send us contributions.—ED. PRACT.]

## Reviews.

*The Diseases of Children.* By FLEETWOOD CHURCHILL, M.D.  
Dub. and Ed., M.R.I.A., &c. &c., and FLEETWOOD CHURCHILL,  
Jun., &c. &c. Third Edition. Dublin: Fannin and Co.  
London: Longmans, 1870.

WE cannot say whether we ever read an earlier edition of this book; if so, it must have been when we were in the land or Egypt, and we had forgotten it *in exitu Israel*. How like a horrid dream it is, to peruse, in this year of grace 1870, one of these manifestoes of the bygone "blood and iron" school of therapeutics! In vain we rub our eyes and try to convince ourselves that it is *only* a dream; there stand the printed pages before us, embodying every half-forgotten barbarism of the days of our youth; the old bad creed of the men who have learned nothing and forgotten nothing since their pupilage, proclaimed anew as gospel. It is really too much.

That Dr. Churchill is a learned man, in the sense of having read pretty nearly everything by writers on children's diseases who flourished not later than twenty or twenty-five years ago, we do not deny. But of the larger part of recent pathology and therapeutics he is apparently ignorant; and as he has thought fit to republish his work as a text-book applicable to the present time, it is certainly the duty of a reviewer to show how little it possesses any claim to be so regarded. We have seldom seen a book more unfit to be taken as a guide for practice. The volume is a thick one, and closely printed; but it will be quite sufficient for the purpose of estimating its merits as a text-book of children's diseases, if we examine the directions which it gives for the treatment of a few of the more important acute affections: and we shall take pleurisy, convulsions, and acute meningitis, as our examples. We learn, with amazement, that primary pleurisy in strong children (one of the most harmless and spontaneously curable diseases that exists) is to be treated with "liberal blood-letting, either from the arm, or by leeches to the side, or both. It may, very likely, be advisable to repeat this if the attack be severe, and the first attempt be only partially successful," &c. &c. We are told, moreover, that if there be much fever, with a quick firm pulse, antimony and nitre should be

given. And in secondary pleurisy, as it sometimes happens that bleeding and tartar emetic are not well borne, we are to fall back on mercury given to salivation. And all this is but the opening of the ball: further entertainments being provided in the shape of blisters, diuretics, and *more calomel* for the later stages. Would any one believe that all this monstrous armamentarium of treatment is directed against a disease which the best English authorities are in the habit of treating with nothing but warm poultices to the chest and a little opium for the acute stages, iron and cod-liver oil for the later periods, and paracentesis for the removal of fluid which would not be spontaneously absorbed, and that under such treatment the results leave little or nothing to be desired?

Again, take Dr. Churchill's mode of dealing with acute meningitis. He does not quite admit (what most authors do admit) that this disease<sup>1</sup> in children (when non-traumatic) is invariably tuberculous, but he allows that it is so in a large majority of cases. He allows that it is almost invariably fatal. Yet here again we find him recommending the most sanguinary practice: bleeding, cupping, or repeated leechings, mercury, purgatives, blisters, &c. &c. He talks, with an assurance that fills us with astonishment, of the "derivative" action of irritant cathartics in this disease; and we begin to ask what possible notion can he have of its pathology? We turn to his remarks on that subject, and can perceive that he entirely fails to grasp the idea that the vascular changes, the exudation, proliferation of cells, &c., are but an episode—though a fatal one—in a constitutional malady; and that even supposing it were possible (by "derivation" to the intestinal or to the cutaneous surface) to modify one element—the vascular fulness—there is not the slightest reason to suppose that this would affect the general result.

A still more serious complaint must be urged against Dr. Churchill for his teaching on the subject of convulsions on children. Whatever may be thought of the practice of blood-letting in pleurisy or meningitis, we should have supposed that at the present day not a voice would be raised in favour of this practice in convulsions (save in the most rare and special kinds); but to our consternation, we find that here, too, our author looks upon it as the prime remedy in severe cases. When we read this extraordinary statement, and further peruse his truly ferocious directions for dividing the gums in case of supposed dental irritation, and then remember the scores of cases which are now every day successfully treated with a mere whiff of chloroform to arrest the convulsions, and with liberal allowances of light nutritious food and a little wine to prevent

<sup>1</sup> We, of course, except cerebro-spinal meningitis.

their recurrence, we must confess that our disapproval of Dr. Churchill's teaching is mingled with indignation. No teacher of practical medicine in the present day has a right to be ignorant of the cardinal facts respecting convulsion—that so far as it is a direct expression of the vital status of the motor centres it is an expression of debility, and that the highest development of the convulsive tendency is found in conditions of profound anæmia. That Dr. Churchill should be ignorant of this, and of the minor but scarcely less important fact, that the irritation of dentition does *not* proceed from the resistance of the gum to the advancing teeth, stamps a *cachet* on his book which absolves us from the obligation to examine it any further. We are sorry that so much labour as he has expended should be thrown away, but we should still more seriously regret to see his treatise adopted as a text-book by students or practitioners.

[Important original papers by Dr. Risdon Bennett, Professor Macnamara of Calcutta, Mr. Beardsley, and others, are unavoidably delayed; as are also several reviews of books.—ED. PRACT.]

## Clinic of the Month.

**Permanganate of Potash in the Treatment of Gonorrhœa and Gleet.**—Dr. Warden, of Haulbowline, on the strength, it must be admitted, of a very limited experience, recommends the use of an injection of permanganate of potash in proportions varying from five to fifteen grains in the ounce of water, employed four times a day. The cure is effected in the course of two days. The most satisfactory point in Dr. Warden's remarks is the statement that it is "really nowadays quite rare to get a case of gonorrhœa to treat. He refers to the Mediterranean Station. About the years 1860 to 1863, the cases of gonorrhœa and syphilis were rife in most of the ports, but since that time they have been steadily decreasing, and this is entirely due to the regular inspection of the French and Italian towns and ports. In Turkey and Egypt, where there is, he believes, a nominal supervision, syphilis is found more frequently than gonorrhœa. He thinks this speaks in favour of the Contagious Diseases Act." (See *Lancet*, Dec. 3, 1870.)

**The Administration of Sulphurous Acid in Typhoid Fever.**—Dr. Wilks, of Ashford, states that about a year and a half ago sporadic cases of typhoid fever began to occur in Ashford, and these were found to be amenable to ordinary treatment; that is to say, the diarrhœa could be controlled by sulphuric acid, opium, logwood, catechu, chalk mixture, and the like; the strength could be sustained by quinine, strychnine, &c.; and there was little or no tendency to die from the mere poison of the fever. But as the cases multiplied, and by their localization began to indicate foci of contagion, the treatment became more difficult; for the diarrhœa became more unmanageable, the prostration more marked, and an alarming tendency to die became manifest in some instances. At length Dr. Wilks, in September 1869, began to use creosote, which he had heard much praised in connection with typhoid fever, and certainly it was beneficial. But it had one great drawback; it nauseated the patient—so much so that the only patient he lost at that time persisted in attributing his death to the creosote. Still, conceiving that the agent he required was an antiseptic, he made up his mind to try sulphurous acid, which he had once or twice

used in cases of sarcina ventriculi, and which he knew could be made palatable, and was not depressing. Plentiful opportunities for using the acid came to hand, and the more he tried it the better he liked it, and the more firmly he became convinced of its efficacy. During the past summer only one died, and he was an habitual drunkard and would not take his medicine. The acid should be given in doses of from two-and-a-half to twenty minims according to age, repeated every four hours, and continued for a week, ten days, or even more, until the patient complains of tasting, smelling, or feeling like sulphur or lucifer matches. When he has seen the case early, before the diarrhoea has become severe, he has simply given the acid flavoured with syrup of orange-peel in water. When the diarrhoea has been troublesome, he has added sulphuric acid and laudanum according to the age of the patient. Dr. Wilks considers that its beneficial action consists in its power of arresting the further development of the fever poison, and continuing this arrest long enough exterminates the fever. It is an antidote, and when the cases are treated soon enough, the disease may be then and there stamped out. (See *British Medical Journal*, Dec. 3, 1870.)

**Treatment of Chilblains.**—Mr. Fergus calls attention to the value of sulphurous acid in the treatment of this affection. It should be applied either with a camel-hair brush, or, better, by means of a spray-producer. One application by the latter method usually effects a cure. The acid should be used pure, and he finds Clarke's spray-producer the best when both hands are free; Richardson's when only one is so. A good wash for hands or feet affected with chilblains is sulphurous acid three parts, glycerine one part, and water one part. The acid is particularly useful in the irritating, tormenting stage of chilblains. (See *Lancet*, Nov. 26, 1870.)

**Belladonna in the Treatment of Spermatorrhœa.**—Mr. R. M. Jones, having noticed the advantage accruing from the employment of belladonna in the treatment of incontinence of urine, was induced to try it some months ago in nocturnal emissions, and also in those so-called cases of spermatorrhœa consequent upon loss of tone and irritable state of the generative organs, with very beneficial results, even in extreme cases. He generally prescribes it alone, in gradually increasing doses, until the desired effect is produced; but occasionally he gives it in combination with quinine or the tincture of the muriate of iron, but not with better results, as he has reason to believe that in some instances the iron has a tendency to neutralize the efficacy of the belladonna. Without entering into the details of the various cases, he considers that the belladonna seems to possess a decided superiority over the iron in soothing the

irritable state of the generative organs that is generally present in these cases, and also in not producing congestion and constipation. It also seems to possess some slight aphrodisiac qualities. (See *Lancet*, Nov. 26, 1870.)

**Treatment of Constipation.**—An F.R.C.S. writes a letter to the *British Medical Journal*, of which the following is the substance. Twenty-five years ago, when in business difficulties, he was affected with piles and irregularity of the bowels. He laid the strangulated pile open, took medicine, and got tolerably well, though still suffering from dyspepsia and disorder of the bowels. He thought he had found a sovereign remedy in an alkaline decoction of aloes with myrrh and ammonia and citrate of iron, but with fresh troubles the piles returned. He was compelled to lie up, and, after a second operation, crawled about again with the most agonizing little ulcers. Partial recovery ensued, but further anxiety again laid him low, and the protrusion became so considerable that he was compelled to go through a more serious operation, and after that struggled up again, never knowing an hour's ease from the presence of a troublesome fissure. At length he found relief from the following prescription:—Powdered rhubarb, four ounces; aloes, three ounces; myrrh, two ounces; Castile soap, two ounces and a half; cajuput oil, one ounce. Five or ten grains to be taken before meals. He found, on taking this, that he had an ample stool always the following day, and by the help of a pessary the fissure healed. For fourteen years he has now been free from his old enemy. His experience of the efficacy of the medicine has been very large among literary and business men and delicate women, and he has never found it fail. The preparation of the pill mass he considers to be very important, and recommends that the rhubarb and aloes should be well rubbed and mixed, and the soap then added. The soap should be real Castile. The mass should be kept in well-stoppered bottles. For use, only a very small quantity of rectified spirit is required to make a splendid pill mass. The dose should always be taken before meals, and women sometimes require one or two doses of castor oil antecedent to commencing its use. (See *British Medical Journal*, Nov. 26, 1870.)

**Silicate of Potash as a Dressing for Wounds, &c.**—We extract from the *Medical Times and Gazette* for Nov. 12, 1870, the following account, that we have not elsewhere seen, of Professor Darby of South Carolina's liquid glass. The mode of application of this substance as a surgical dressing is very similar to that in making immovable apparatus with other substances; but the neatness, lightness, firmness, durability, and ease of application render this preferable to gypsum in



being lighter, and not requiring renewal from cracking and breaking. It is far more convenient of application than dextrine or glue; and, in comparison with starch, it is more tenacious and firm, and dries more rapidly. An extensive experience in the use of them induces him, after a fair trial, to place it above these materials for general usefulness. In applying this dressing the limb should be first enveloped in cotton wadding, to protect prominences of bone from undue pressure, to cause the bandages to fit irregularities of surface, to absorb moisture, and at the same time to yield to any swelling which might occur. After the wadding has been well fitted, unglazed muslin should be used as a bandage, and with the hand, or, better for economy and neatness, with a painter's brush of moderate size, silicate of potash should be thoroughly applied to this the first bandage. Another, the second, bandage should then be adjusted immediately over the first, and a liberal covering of the liquid glass applied. To give stability to the mobile parts, as at the seat of fracture and at the joints, strips of muslin, well soaked in the fluid, should be placed one over another to the thickness desired and required; or pasteboard, felt, veneering of mahogany, cedar, pine, or other wood, may be added or substituted. The third and final bandage should be made to completely cover the second, and the strips of cloth, paper, wood, or other material, and then be saturated with the solution. If regarded as necessary to furnish additional strength and security from mobilization, short strips dipped in the liquid can be applied to such parts as cause apprehension, without enveloping the entire limb in a fourth bandage. The dressing having been made, the limb should be kept at perfect rest until drying is shown in the hardness and solidity of the apparatus by immobility, the time for this condition depending upon the thickness and quality of the materials, and the quantity of the substance applied. With two or three layers of bandages, three or four hours will suffice; and when five or six thicknesses, including paper or felt or an absorbing material, are used, from eight to twelve hours. In the lower limb of an adult,  $2\frac{1}{2}$  lbs. of the liquid are sufficient, and half this quantity for the upper extremity. In the removal of this dressing difficulties exist, as with plaster, starch, &c. Hot water is an adjunct, but fear of scalding forbids its use except with the greatest caution. The scissors or knife, as used for starch bandage, is applicable to this. In the event of the dressing becoming loose from congestion subsiding, by cutting out a portion and boring holes it can be laced as a boot to fit the limb; or by bringing the edges together and placing a longitudinal strip, and binding this by short strips partially or completely encircling the limb, the apparatus is made as solid, firm, and immovable as when

first put on the part. In compound fractures, or in ulcers, by making a joint upon the superimposed bandages corresponding in shape and size to the injured or diseased parts, and cutting out the parts thus marked, the wounds can be dressed; or by leaving a portion attached, a door over the fracture or ulcer can be made to open or shut as desired. In cedema of the limbs, in chronic arthritis, in club-foot, and other deformities, in firmly fitting bandages or reduced luxations, in fractures (simple, compound, and ununited), in sprains—and, in truth, wherever absolute rest is required and immobility is to be maintained, he knows this to be a superior mode of dressing.

**Treatment of Incontinence of Urine.**—Dr. Clifford Allbutt, in a clinical lecture delivered at Leeds, records two cases of this affection, one of which occurred in a girl, aged 18, who had suffered from it for many years, and who rarely passed a night without its happening. She had not suffered from epilepsy, and her menstrual functions were perfect. She had been most careful in emptying her bladder before retiring to bed, drank little or no fluid in the latter part of the day, and very frequently submitted to be called up once or twice during the night to pass her urine. She was not a very sound sleeper, and she believed that she usually lost urine twice during sleep; first about midnight, and the second time early in the morning. There was no history or probability of the presence of any such irritants as worms, fissure of the anus, intra-vesical ulcers, or calculi, nor were any such found on examination. This patient was treated and cured with belladonna. The second case occurred also in a young girl, aged 22, suffering from general nervous debility. Here the water dribbled away almost imperceptibly both by day and night, issuing from the bladder in drops or jets so small that they defied the precaution of using the vessel. If she coughed, a sudden fit would occur, and the incontinence was no worse at night, but rather better. This patient was treated with liquor strichniæ, and was cured in a week. Dr. Allbutt proceeds to consider the pathology of this affection. (See *Lancet*, Nov. 26, 1870.)

**Employment of External Version after complete discharge of the Liquor Amnii.**—Dr. Woodman records the following interesting case, where this plan, originally suggested by Dr. Braxton Hicks, was successfully adopted. Mrs. E. R., aged 41, in labour with her eighth child. On examination a hand was found to present. The liquor amnii had broken just previously. She was very stout and largely developed, and the abdomen was large and flaccid. Under these circumstances Dr. Woodman thought he would try external version, although, owing to the previous and complete discharge of the liquor

amni, it was not very likely to succeed ; but its great advantage was that no harm could accrue from its trial, and the old method could be resorted to in case of failure. He therefore at once proceeded to turn by external means. With two fingers of one hand in contact with the presenting hand of the child, and the other engaged in manipulating from without the child in utero, he had the satisfaction of feeling the presenting hand gradually glide away upwards, and its place taken by a foot. This he speedily captured and brought down, when the knee of the other leg was felt: this occupied exactly five minutes. Another five minutes was spent in bringing down the second foot, using his finger as a hook, and in five minutes more he rapidly cleared the head of a very fine male child, using two of his fingers as a vectis, and the placenta followed immediately. The uterus contracted firmly under his hand, after throwing off a few clots of coagulated blood. He carefully bound up the abdomen, placing a moderate compress under the bandage, and gave a full dose of Battley's liquor opii, combined with ammonia and chloric ether. The recovery of the patient followed without a single drawback, and was unusually speedy. The ease with which the turning was effected after the whole of the liquor amni had been discharged was especially remarkable, but was probably aided by the soft and yielding character of the uterus and the flaccidity of the abdominal parietes. (See *Medical Times and Gazette*, Nov. 12, 1870.)

**On the use of Vinum Aloes in Ulceration.**—Mr. Henry Nathan, of the Royal Naval Hospital, Haslar, draws attention to this preparation, and states it to be a most valuable remedy for any kind of ulcer which has once assumed the aspect known as "healthy," and also for weak ulcers. Its use is of ancient date, Hippocrates and Galen having employed it. Its good effect he considers must not be ascribed only to the stimulating properties of the wine: that the aloes has also a share in it may be proved by dressing two ulcers of the same character occurring in the same person, the one with wine, the other with wine of aloes, when the latter will be found greatly superior. The preparation should be applied on lint covered with oil-silk, and each dressing should be permitted to remain on for twenty-four hours. Its primary effect is to increase the discharge, which may be gently sponged from the surrounding integument, taking care never to touch the surface of the ulcer, and during the healing process no other applications should be employed. Mr. Nathan states that he has made use of this method of treatment in some hundreds of cases with marked success, and it has almost invariably produced rapid cicatrization in cases when most of the ordinary applications have been either very tardy in their effects or else have failed. (*Ibid.*)

## Extracts from British and Foreign Journals.

**Maltine and Dyspepsia.**—Dr. Goutaret defines three forms of dyspepsia—viz. 1. Salivary dyspepsia; 2. Duodenal, intestinal, or hypochondriacal dyspepsia; and 3. Gastric dyspepsia—and describes the symptoms peculiar to each. Salivary dyspepsia is due to a deficiency of saliva, whether arising from imperfect secretion or to the food being boiled. The general health is usually good. It is the most frequent form of dyspepsia. It is readily amenable to treatment; appropriate regimen, alkaline waters, and maltine almost invariably effect a cure. Hypochondriacal dyspepsia is induced by the ingestion of badly-cooked food, by imperfect elaboration of the pancreatic juice of the bile, or of the fluid of the intestines, or by the more obscure influence of general or moral causes; it occurs from four to six hours after food, and in those who have passed middle age. It is accompanied by gastralgia, the formation of acids in the stomach, and vomiting; the bowels are irregular, the skin becomes sallow, and the patient thin. Regimen is here chiefly to be attended to. M. Gouterat especially recommends the waters of Plombières or Ems, hydropathy, and the grape cure. Maltine is useful indirectly. Gastric dyspepsia results from overfeeding, or, as in convalescence from other diseases, from the secretory activity of the stomach not being re-established. The symptoms vary considerably, but diarrhoea, disgust of animal food, discharge of fetid gases per anum, and general debility and macrescence are often observed. Diet is here also of great importance, and he especially recommends the use of raw meat, pepsin, acids, bismuth, and maltine. As regards the latter substance, Payen and Persoz, in the year 1833, found an active nitrogenous substance in germinating barley as in other seeds, to which they give the name of *diatase*, and which Dubrunfault has termed *maltine*. This possesses the power of converting starch into dextrine and sugar; its mode of separation and purification need not be mentioned here. M. Goutaret finds in his experience that to obtain its full action the starch taken as food should be thoroughly boiled, and should be very much diluted with water, having at least ten times its weight of that fluid mingled with it. The power of the maltine in converting

starch derived from various sources into sugar is nearly the same in all cases. A temperature of 35° to 40° C. is that best adapted for its action out of the body, which corresponds with that of the stomach. He employs the remedy in doses of two to six grains after each meal: it never acts prejudicially on the digestive organs. (*Gazette Hebdomadaire*, 1870, Nos. 25 and 27.)

**Carbonate of Ammonia in the treatment of Pneumonitis.**—Dr. Patton observes that this drug has long been used in pneumonitis, to fulfil certain special indications in the advanced stages of the disease, under the supposition that its value depended upon its stimulant properties sustaining the vital forces in cases where there was extreme prostration, or aiding expectoration by giving time and strength to the respiratory organs. He is convinced, however, that this application of the remedy, in pneumonitis, is far too limited, and that its stimulant properties constitute but a very small proportion of its remedial value. His attention was first directed to this medicine as a remedy in all stages of pneumonitis in the winter of 1862, when he happened to have a considerable number of cases of this disease under his charge. Thirteen well-marked and severe cases of pneumonitis were placed upon carbonate of ammonia, in doses of from five to ten grains every two hours, night and day, from the first day of the attack; no other remedy being employed, with the exception of counter-irritation in several instances. In many of the cases there were high febrile excitement, severe pain in the region of the inflamed lung, and other usual signs of pneumonitis. The effect of the medicine was most carefully observed, and to his agreeable surprise he found that instead of increasing the febrile excitement and heat of the surface, both were very greatly reduced in a very short time. The pulse became less frequent, but full and strong, the skin moist, and temperature reduced. The pain in the region of the suffering lung was promptly diminished in all the cases. But its most strikingly beneficial effect was upon the character and frequency of the respirations, the dyspnoea being relieved and the respirations rendered easy, full, regular, and decidedly less frequent. All of the thirteen cases, of which two were double, recovered. The average duration of the attack was only nine days. Since that time he has adopted the same plan in ninety-six other cases of pneumonitis, and of these only two died. Its action he believes to be that it relieves the hyperinosis, and thus prevents many of the complications that are likely to occur during the progress of the disease. In the congestive stage, he occasionally adds 60 drops of chloroform to aid reaction, and when an aperient is required he gives sulphate of magnesia. In cases of pneumonitis where absorption of the exudation is

accomplished very slowly, the hydrochlorate of ammonia may be substituted for the carbonate with advantage; but for this condition Dr. Patton has never found any remedy equal to turpentine; it acts promptly and with great certainty, and is probably the safest and most efficient remedy that can be had for this condition. (*Hay's Amer. Journ. Med. Science*, Oct. 1870.)

**Use of Sulphur in Angina Pectoris.**—Dr. Richardson, of Louisville, records a case of angina occurring in a man, aged 63, remarkable for the long persistence of the sense of stricture and pain, these symptoms continuing with severity for two days and nights without intermission, and the pain remaining dull, with a feeling as if the severe paroxysm was at any moment ready to return, for two or three weeks. Tonics were used, as after the severe paroxysms the strength had greatly failed and the appetite was almost wholly gone. The tongue, however, remained clean. Quinine, morphia, strychnia, and phosphoric acid were each in turn tried, but without beneficial results; the patient continued to suffer pain in spite of all remedies used. Having read or heard something of the good effects of sulphur in such cases, Dr. Richardson concluded to give it a trial. A few doses were accordingly given, after the action of which there was a decided improvement; the feeling of distress abated, and was not so readily renewed by walking up-hill. Continuing the remedy, the uneasy sensation after some days disappeared entirely, and the health appeared to be restored. After two or three weeks, some symptoms of a return were removed by a resort to the sulphur, which was usually taken in doses of two drachms at night, so as to produce an alterative and slightly laxative effect. In this case, the disease hardly appears to have been of cardiac origin, and Dr. Richardson himself suggests it may have been simply a neuralgia, especially as the patient was liable to other neuralgic affections. (*American Practitioner*, No. 11, Nov. 1870.)

**The Treatment of Rabies.**—The Editor of the *Wiener medizinische Wochenschrift*, No. 49, quoting from a French blue-book containing a report of inquests, states that no plan is so successful as the application of the actual cautery to the bite, and this should be applied at as early a period as possible; the wound being sucked, if practicable, in the time intervening between the bite and the preparation of the instrument. The comparison of the results of cauterized and non-cauterized cases is worthy of notice. Amongst 134 cauterized cases 42 died, or in other words 68 per cent. were preserved. On the other hand, amongst 66 non-cauterized cases, 56 died, or 84 per cent. When the symptoms of rabies have fairly developed themselves the case is absolutely hopeless, and the French and the German

writers alike express themselves in favour of placing the patient permanently under the influence of anæsthetics till death supervenes.

**The Treatment of Typhus by Hydropathy.**—Dr. Preuss, of Wohlau, gives the details of the treatment of two cases of typhus, in which the cold-water cure was successfully employed. Both cases appear to have been severe. In both, the temperature of the body was invariably more or less lowered by each bath, according to its temperature and duration, and the continuous type of the fever changed into an intermittent type. The frequency of the pulse was also diminished after each bath to a remarkable extent; the tension of the arterial system being increased and the vigour of the cardiac muscle much augmented, the strongly-marked dichrotous pulse being speedily rendered normal. The somnolency, previously considerable, disappeared, the patients willingly changing their position in the bed—a point of importance in preventing hypostatic congestion—and the typho-maniacal expression of face disappearing. The baths further effected an improvement in the appetite and digestion. The gastric, as well as the other abdominal symptoms, rapidly vanished, the tongue became clean, meteorismus and diarrhoea no longer troubled the patient. In the same way the catarrhal conditions of the lungs were subdued, which were in the first instance very strongly expressed. Lastly, the stage of convalescence was shortened. Dr. Preuss particularly calls attention to the improvement that occurred in the character of the alvine discharges, which soon lost their fetid odour, and thus rendered the proximity of such patients safer, both for patients in the same ward and for the nurses and doctors. The mode of applying the cold water was various; but he preferred pouring six jugs of water over the patient at intervals, rubbing the body lightly between each affusion, and then letting him rest. Cold cloths were also sometimes placed on the chest or round the limbs. (*Berliner klinische Wochenschrift*, No. 41, 1870.)

**Therapeutic Value of Chloride of Ammonium.**—Dr. William Cholmeley, after a short historical introduction, states that during the last fifteen years he has been in the habit of employing this medicine in cases in which he deemed it appropriate, and amongst them are—1. Some forms of neuralgia of the fifth pair, especially those occurring in women beyond twenty years of age, whose strength has been overstrained by rapid child-bearing, prolonged suckling, anxiety, want, or overwork. In doses of gr. xv to gr. xx given three times a day, the pain, which is usually of a dull aching character, and intermittent, is quickly relieved, and ferruginous tonics may then be prescribed. 2. In some cases of more genuine tic-

doloureux, and in hemicrania, the same medicine is invaluable. 3.\* Nervous headache, such as occurs in some patients after any violent emotion or strain of the nervous system, is readily amenable to the same doses mingled with chloric ether. 4. It is serviceable also in cases of myalgia, such as affects those whose work requires long maintenance of one position. 5. In sciatica, given in the same doses every four or six hours. 6. In lumbago. 7. In the painful sequels of rheumatic fever, and states analogous to this affecting men who are overworked. 8. Dr. Cholmeley considers it finally to have a powerful emmenagogue influence in cases of amenorrhœa occurring in delicate and nervous girls and women, especially when this has occurred after exposure to cold and wet. In such cases it may be advantageously combined with the perchloride of iron. It is also beneficial in cases of dysmenorrhœa occurring in highly nervous or rheumatic patients, and in the various ailments that accompany the change of life in women. (*Transact. St. Andrew's Med. Grad. Associat.*, vol. iii.)

**On the Nature and Causes of Hysterical Phenomena.**—The Italian *Gazzetta Medica* gives the following résumé of Dr. Chairoud's observations on the relation of diseases of the ovary to hysteria. 1. Where compression or inflammation of one ovary, or of both, exists, paralysis of the reflex movements of the epiglottis and of the pharynx constantly occurs. 2. The combination of these two groups of symptoms in one individual may be designated the hysterical cachexia. 3. The hysterical paroxysm is only the consequence of this reflex paralysis. The suffocating attack is occasioned by the paralysed epiglottis narrowing the orifice of the larynx, and then there follow the convulsive movements of the extremities and the muscular spasms that collectively constitute the hysterical crisis. 4. The asphyxia proceeding from the frequent recurrence of these symptoms gradually leads to a change of the whole physical nature of the patient. From hence result the various sensorial disturbances and the anæsthetic conditions that are exhibited by almost all hysterical patients. The treatment of hysteria should, if these views are correct, be directed to functional disturbances of the ovaries, and is in consequence purely local, with a view of subduing the oophoritis, as the primary if not the only cause of hysteria. (*Gazzetta Med. Ital.-Lombard*, No. 8, 1870.)

**Employment of Carbolic Acid for the relief of Pruritus Cutaneus.**—At a meeting of the Niederrheinische Gesellschaft at Bonn, Prof. Binz brought into notice the advantage to be derived from this method of treatment. Pruritus,



as is well known, chiefly attacks people of advanced age, and produces very serious discomfort. The violent itching leads to constant scratching, which occasions secondary lesions of the skin. Few remedies besides arsenic appear to have any influence upon it. Last year careful investigations were undertaken by Von Hebra to determine the value of carbolic acid, proceeding on the good results derived from its use in other dermatoses. These inquiries demonstrated that both prurigo (in which itching swellings occur) and pruritus (in which itching occurs without anatomical lesion) may be alleviated by the ministration of carbolic acid. In one instance a man of 74 years of age, of good position, who had suffered for more than two years from violent itching of the skin, began to take carbolic acid according to the Viennese plan, namely, in the form of pills, made up with extract of liquorice, containing at first  $1\frac{1}{2}$  grains of the acid, but gradually rising to 15 grains per diem. The effects were immediately apparent, and improvement still occurred as the dose was increased. To ascertain whether the improvement was or was not accidental, the use of the acid was discontinued on several occasions, but the itching was immediately observed to increase in severity, whilst it again diminished when the medicine was recommenced. After on one occasion the medicine had been taken for five weeks continuously in quantities amounting collectively to 15 grains per diem, gastric disturbances supervened, which, however, disappeared as soon as the medicine was given up. The use of the acid has not produced a complete cure, but it has so far mitigated the symptoms as to enable them to be easily borne. A second case is recorded occurring in a young man, in which the acid effected no improvement, whilst the disease was speedily cured by the use of arsenic internally. From this it would appear that there is more than one kind of pruritus, requiring different methods of treatment. Morphia, it is well known, will occasionally induce a temporary attack of pruritus. (*Berliner klinische Wochenschrift*, No. 43, 1870.)

## Notes and Queries.

### DEPARTMENT OF ANALYSIS AND NEW INVENTIONS.

THE intention with which this department of the *Practitioner* was established has been, for the present, somewhat departed from. We intended at once to commence the examination, on a large scale, of *new* preparations of food and medicine (indeed, as it is, we have several such examinations in hand or in view). Meantime, however, the numerous remarks which we have heard from practitioners as to the varying quality of drugs, as obtained even from most respectable shops, has induced us to make a few tests of the older preparations of drugs: and we give below a series of analyses of samples of Spir. Ammonia Comp., taken at random from six different chemists' shops. It will be seen that only one of these specimens approaches at all nearly the proper standard.

#### SPIRITUS AMMONIAE AROMATICUS.

No. I. T. Bell and Co., 338, Oxford Street.

No. II. Burgess, Willows, and Willows, 101, High Holborn.

No. III. T. Smith, 40, Millbank Street, Westminster.

No. IV. Bass and Sons, 81, Hatton Garden.

No. V. John F. Staines, 44, Southampton Row, Bloomsbury.

No. VI. T. Sellers and Co., late Cowdery and Co., 115, Bunhill Row.

Nos. II., IV., and VI. are wholesale houses.

In the following table the articles are ranged in the order of their alcoholic strength, the strength of the British Pharm. article being added for comparison.

Nos.	Per cent. Alcohol by weight in volume.	Per cent. of Am- monia by weight in volume.
Brit. Pharm.	62·6	2·6
I.	63·1	2·0
II.	53·7	1·4
III.	52·4	1·5
IV.	52·2	1·3
V.	51·4	1·2
VI.	48·1	1·5

Ranged according to the amount of essential oils they contained, they would stand in the following order:—I., III., IV., V., II., and VI.; No. I. containing considerably more than the rest, the others differing but slightly from each other.

When ranged according to the amount of carbonic acid, the following would be the order:—I., VI., III., II., V., IV.: I. and VI. containing decidedly most carbonic acid; III. somewhat less; and II., V., and IV. considerably less.

### CORRESPONDENCE.

OXALATE OF LIME IN URINE.—Dr. MacLagan, of Dundee, writes thus:—"In Dr. Basham's most suggestive and excellent communication on the action of some salts of potash on uric acid calculi, which appeared in the November number of the *Practitioner*, it is said (page 265) that 'it cannot be too forcibly impressed on the practitioner that oxalate of lime crystals can never be detected in urine received and examined immediately from the bladder, but that the same urine, after free exposure to the air, will in most cases yield an abundant sediment of them.' It is also stated, that it is only after being voided from the bladder that the oxalurate salt is split up into oxalic acid and urea. Whilst acknowledging the able and satisfactory explanation given by Dr. Basham of the chemical changes which take place during the action of the potash salts, I would call in question the accuracy of the above statements. Were they true, the mulberry calculus would be an impossibility instead of only a rarity. The slowness with which the crystals of oxalate of lime fall down is to be explained in a different way. They are so nearly of the same specific gravity as the urine, that their separation from that fluid is a very tardy process. One little experiment serves to demonstrate this. Take a urine supposed to contain oxalate of lime (as in the case of a patient suffering from oxalic dyspepsia); put a little of the urine with some spirit of wine in a watch-glass; heat it gently over a spirit lamp, keeping up, at the same time, a gentle rotatory motion, so as to bring any deposit which forms in the centre of the glass; carefully remove, with a pipette, a little of the fluid from time to time, and replace it by a little more spirit of wine, and within a couple of minutes of the time that the urine was voided crystals of oxalate of lime may be seen by means of the microscope in the centre of the watch-glass. This little clinical fact is well known to all the pupils of Dr. Warburton Begbie. I think it probable that Dr. Basham would find the oxalates show themselves as readily if the access of air to the urine were quite

prevented. If so, the necessary inference would be, that all the changes took place within the body."

NOTE ON AN APPLICATION OF CHLORAL.—Dr. T. W. Grimshaw, of Dublin, writes as follows :—

"A young lady labouring under a severe disease had to be moved a distance of sixteen miles. The patient was much emaciated, and suffered intense pain on movement, so that the shaking of the carriage was looked forward to with serious apprehension. The following plan was followed :—A bed having been made up in a carriage, a dose of ten grains of chloral was administered to the patient. She was immediately placed on the bed, covered up, made comfortable with hot-water bottles, the carriage closed, and kept standing quiet for a few minutes, during which time the patient went off into a sound sleep: we then started. After two hours the patient woke up for a few minutes, got a second dose, ten grains of chloral, waited for a few minutes, went to sleep again, and slept until she arrived at her journey's end, when she was carried up two pairs of stairs to bed, and continued sleeping for nine hours during the journey. She was no worse the following morning, and quite cognizant of all events that occurred from her departure until her waking up in bed at her destination.

"Perhaps if the above plan were adopted in moving the wounded in the present war, it might relieve suffering. I have no doubt I shall hear that my plan has been employed by some one else; indeed it is a very obvious use for this valuable drug."

ON THE USE OF OPIUM IN CHRONIC ALBUMINURIA.—Dr. H. T. Whittle writes the following :—

"In a footnote to some remarks on the use of chloral by Dr. Ogle, published in the May number of the *Practitioner*, the doctor says, 'I cannot help stating my belief that in kidney disease with uræmic poisoning we may be *too* cautious as regards giving opium.' On this subject the following case may not be without interest. About ten years ago a gentleman, aged about sixty years, consulted me on account of dropsical symptoms which had presented themselves some five or six months previously. He had always been a temperate man—in fact a teetotaler during the last twenty years—and had never been seriously ill in his life. He attributed his illness to exposure to cold. I found the heart and liver healthy, general nutrition good, the urine scanty, highly albuminous, and loaded with urates. It contained large hyaline casts, and a few smaller fatty casts. Under ordinary treatment he improved for a while, but about a couple of months after I first saw him a curious set of symptoms presented themselves. These consisted of a rapid series of convulsions, contractions of the muscles of the trunk

and limbs ; they came on generally towards evening, without any warning, and without in any degree diminishing the consciousness of my patient. These convulsions were sometimes so severe that I have seen the patient thrown forward from his chair with such violence that he would have fallen on to the floor if he had not been caught by his friends. The patient generally cried out loudly during the attack, but said this was caused by terror rather than by pain. I tried several modes of treatment without effect. The general prejudice against opium in Bright's disease prevented my having recourse to it ; but at length, wearied out by repeated failures, I determined on giving it a trial. I commenced with one-third grain doses of morphia, and the effect was magical. The patient got a good night's sleep after the first dose, such as he had not enjoyed for several weeks previously. From that time up to the patient's death, which happened about nine months afterwards, I found the daily use of morphia thoroughly effective in preventing or staying the convulsive action. I tested this frequently by withdrawing the morphia, sometimes with and sometimes without the patient's knowledge, but the convulsions invariably came on if the morphia was not given. I did not think opium quite so useful as morphia, although it had a similar effect. The highest dose of morphia we reached was two grains, given once or twice a day according to the requirements of the case. From close observation I was convinced that the medicine had no prejudicial effect on the kidney. In fact, the patient lived much longer than I had reason to expect when I first saw him. The secondary cause of death was bronchitis.

"My experience in this case cured me of all prejudice against the use of opium in cases of albuminuria. Such cases are, I think, more common here than in the old country, and during the last ten years I have never hesitated to prescribe morphia when circumstances have required it. It has generally answered my expectations, and I have never seen any ill result from the practice pursued.

"ADELAIDE, SOUTH AUSTRALIA."

[We beg to apologize to Dr. Macpherson for having mislaid a short communication which he sent us. We should be greatly obliged if he would send it again.—ED. PRACT.]

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<sup>1</sup> Any of the foreign works may be procured on application to Messrs. Dulau, of Soho Square, W.C.; or Williams & Norgate, of Henrietta Street, Covent Garden, W.C.

# THE PRACTITIONER.

FEBRUARY, 1871.

## Original Communications.

### ON MECHANICAL MEANS OF RELIEF IN CERTAIN CASES OF INFLAMMATORY ABDOMINAL EFFU- SIONS.

BY JAMES RISDON BENNETT, M.D.

IN several recent numbers of the *Practitioner* reference has been made to the successful treatment of tympanitic distension of the belly by puncturing the intestines through the abdominal walls. Should further experience prove that this may be as safely done on the human body as we know it is in the case of animals, there can be no doubt that, in various forms of abdominal disease, great advantage may be derived from such a mode of relief to the distress and danger attending extreme distension of the belly from tympanitis. The intelligent practitioner will be able to judge how far puncturing the intestine may be admissible in any given case, just as he now does of the dangers attending the ordinary operation of paracentesis abdominis. But we must wait for further experience before any definite rules can be laid down regarding the circumstances in which we should be justified in having recourse to an operation manifestly not devoid of serious risk. In the meantime, every instance in which the operation has been resorted to deserves to be recorded. For this reason, therefore, I have thought that the interesting case I am about to detail might be a not unacceptable contribu-

tion to the *Practitioner*. It is certainly a remarkable example of the bold and successful employment of mechanical means of relief in one of the most common forms of abdominal disease falling under the care of the physician, and will, I am sure, be read with interest by every practical physician.

The war having broken out just as I was preparing to take my continental holiday, and so interfering with my projected route, I determined to visit Russia by the Baltic and return by Stockholm and Christiania. I thus had an opportunity, this year, of seeing something of the Northern hospitals, although, as a rule, I think it desirable to leave physic behind me and eschew hospitals and matters medical when on my holiday. There are, however, both in Russia and Scandinavia, things worthy of notice by British practitioners.

At Christiania I was introduced to Dr. Stabell, a most accomplished and able physician attached to the principal hospital of that place. Among other cases of unusual interest (including both the forms of Norwegian leprosy, the tubercular and the anæsthetic), he showed me the young man whose case I am about to describe, from the full and careful notes kindly furnished me by Dr. Stabell.

A medical student, aged 24, entered the Christiania Hospital, as a patient, on the 17th March, 1870. Twelve days previously he first felt unwell, having headache and loss of appetite. He was not, however, obliged to keep his bed, but even went out occasionally. Whilst out walking on the 13th March he was seized with a sudden pain in the hypogastrium, which became tender on pressure, and he thought somewhat swollen. He went to the theatre the same evening, but was obliged to leave in consequence of the pain becoming worse. The following day he went out again, and accidentally got a kick on the belly, by which the pain was so much aggravated that he was obliged to take a carriage home and go to bed.

17th.—On admission to the ward of the hospital his condition was as follows: Loss of appetite, thirst, some sickness and vomiting, the latter having existed two days, together with diarrhœa. Yesterday he had seven fluid evacuations. Pain in the hypogastric region, not severe when quiet, but increased by motion or coughing. The whole abdomen tense and swollen,



not very tender on pressure, except between the umbilicus and the left iliac crest, where there is extreme tenderness. Percussion dull from the umbilicus to the symphysis. Fluctuation not very distinct. Sound on percussion tympanitic from the sixth rib to the navel. Heart and liver normal in situation. Lungs apparently normal, but he has some cough and dyspnoea. He lost a brother from phthisis last year. Pulse 96. Temperature 37·8 centigrade. He was ordered tinct. thebaicæ and acid. hydrocyan. dil., aa ℥v. every two hours; a wet bandage to the abdomen, and hypodermic injection of morphia in the evening.

For some days his condition was much the same. On the 25th the dulness on percussion extended to five fingers' breadth above the navel. There were daily two or three loose motions, and the occasional passing of flatus gave him considerable relief. The pulse, however, fell to between 70 and 80. The temperature ranged between 37 and 38 centigrade, and the tongue was dry.

31st.—Eight leeches were applied to the abdomen, and an enema administered. The pain was for a short time relieved by the leeches, and still greater relief followed a copious action of the bowels from the enema. The pain and some tenesmus, however, soon returned, and he had sickness and bilious vomiting. Two morphia injections afforded very little relief. The upper part of the belly became greatly distended from tympanitis, and there was more prostration. He was ordered opii gr.  $\frac{1}{2}$  and calomel gr. 1 every two hours. An œsophageal tube was introduced into the rectum, through which some air and fluid motion passed.

*April 3d.*—The distension of the transverse colon had become very great, and there was more dyspnoea. An exploring trochar was therefore introduced into the most prominent portion of the transverse colon, and a good deal of air evacuated with considerable relief. The following day, however, the distension was as great as before, and it was now determined to evacuate the fluid by tapping with an ordinary trochar. The abdomen was punctured midway between the umbilicus and the symphysis pubis, and four "potter" of yellowish semipuriform fluid removed (the Norwegian measure "pot" contains 1,000 c. c.). It was not attempted to remove the whole of the fluid, the trochar being withdrawn so soon as the fluid began to flow slowly. The size



ever, feels better; was up in a chair for two hours yesterday, and had one copious natural action of the bowels.

21st.—Tapped with a larger-sized trochar, and a “pot” and a half of pus evacuated. Through the canula of this large trochar, another double canula was introduced, and, by means of an india-rubber tube and an elevated reservoir of water, the abdominal cavity was washed out with a weak solution of common salt in warm water, till the water from the abdomen ran away quite clear.

22d.—Passed a comfortable night after a morphia hypodermic injection. Bowels acted once naturally. The percussion note is now clear almost to the symphysis pubis. Urine clearer, and less frequent desire to pass water.

24th.—Has been up again.

27th.—Urine sedimentous, feebly alkaline, presenting, under the microscope, some pus-cells and vibriones. Some discharge, now and then, from the puncture, which remains open. A drainage-tube was introduced into the abdomen, to the extent of five inches, and left in the orifice; and this he continued to wear.

June 23d.—Was out in the garden; still wears the drainage-tube in the abdomen. Urine continues alkaline, with a mucopurulent sediment. Appetite, aspect, and strength much improved.

July 17th.—Continued in much the same state, the discharge from the fistula varying in amount and character, the pus being sometimes offensive. The urine has maintained the same character. He has felt well and been out in the garden daily. Yesterday, however, he had a rigor followed by perspiration and headache, the temperature rising to 39.4. This morning he felt better, but at ten o'clock there was a recurrence of rigor with a temperature of 41. Pulse 134. The drainage-tube cannot be introduced beyond half an inch; but, after an exploration with a probe, the tube again passed in to the extent of three inches, when some offensive matter was discharged. Ten grains of quinine were given in the morning.

On the 19th July the temperature had again fallen to 36, and the pulse to 56. With the exception of the cystitis, which did not trouble him much, as there was no pain and scarcely any

tenesmus, and for which he took first decoct. uvæ ursi and subsequently decoct. Pareiræ, he was now pretty well again. On the 27th July, however, he had another severe rigor early in the morning, the temperature rising to 41° and the pulse to 140. He now left off all other medicine and began taking quinine. There being some tenderness around the fistulous opening, a wet bandage was applied.

*July 28th.*—He was again pretty well ; the temperature having fallen to 36·6 and the pulse to 60, and the tenderness of the orifice had vanished.

Thus far I have given the history as kindly furnished me by Dr. Stabell. When I saw the patient in August, he was sitting up in his room, looking pale and pulled down, as though he had had a severe illness, but he was cheerful and free from fever or any discomfort. His pulse was quiet and of fair strength, the tongue clean, the appetite good, and the bowels regular. The abdomen was soft and pliant, of natural form and size, and devoid of all tenderness on manipulation. He was still wearing the drainage-tube, which he withdrew and replaced to show me the ease with which he could do so, and the depth of three to four inches to which it passed within the abdominal cavity. I could not detect any local hardness or swelling, and the abdomen had its natural, soft, elastic feel.

He left the hospital to go home on the 23d August, feeling in all respects well, but still wearing the tube, as there was still sufficient discharge to make it imprudent to allow the opening to close.

Before drawing any conclusions from this very interesting and instructive case for future therapeutic guidance, it is important to satisfy ourselves as to the real nature of the case. That there was a low form of peritoneal inflammation cannot admit of doubt; but was it, in the first instance, general peritonitis or localized in the lower pelvic region? And, subsequently, was the lower abdominal region shut off from the upper by adhesions? Thus, did the saline injection wash out the whole abdominal cavity, or only a limited sac; and did the drainage-tube pass into the abdominal cavity, or only into such a sac? That at one time a very considerable amount of fluid existed in the abdomen cannot be doubted; and this evidently accumulated, in the first

instance, in the lower belly. The tympanitic distension of the colon and the deranged state of the intestinal functions would seem to imply that the inflammatory action was not at first very limited. The slight degree of febrile disturbance and low temperature, except on the temporary occasions mentioned, may perhaps, in the opinion of some persons, rather militate against the notion of general peritonitis. But it is not, I think, at all uncommon to find an almost entire absence of fever in the low forms of peritonitis seen in tubercular subjects.

But whatever view may be taken of the case, the treatment so successfully adopted appears deserving of commemoration and of careful consideration in cases of inflammatory effusions into the abdomen, attaining to such a degree, and lasting so long, as to threaten life. The patient in this case expressed to me the great relief that he obtained by the evacuation of flatus from the colon, and believes that his life even was thus saved.

It is now pretty well established that many cases of empyema do best when a free permanent opening in the thoracic walls allows of continuous discharge of the purulent secretion. In some important respects the abdomen is more favourably circumstanced for such a procedure than the thorax. Nature herself adopts such a mode of relief, and I have seen cases of extensive tubercular peritonitis where life appeared to have been considerably prolonged by the drainage of the effusion through a spontaneous opening through the abdominal walls. I remember having had under my care, many years ago, a lad who was the subject eventually of universal peritoneal inflammation and adhesions. In the early stage of his illness he had symptoms of obstructed bowel and a tumour in the right groin distended under the impulse of coughing. For this he had been taken to one of our London hospitals, and was operated on for inguinal hernia. From the opening thus made there was a continuous discharge, for some time, with very considerable temporary improvement in his condition.

How far the washing out of the peritoneal cavity with the weak saline solution may have contributed to the favourable issue of the case detailed, it may be difficult to say. But it is a practice occasionally resorted to with advantage, I am told, after operations for ovariectomy.

## REMARKS ON THE "ANTISEPTIC SYSTEM OF TREATMENT."

BY C. MACNAMARA,

*Surgeon to the Chandnie and Ophthalmic Hospitals, Calcutta.*

THE occasional uncertainty attending the treatment of wounds on antiseptic principles is apt to make us doubt the soundness of the theory advanced in favour of the curative effect of carbolic acid, depending upon its germ-destroying properties. For instance, two individuals were lately operated on in the Chandnie Hospital on the same day—the one an amputation at the hip, the other of the shoulder-joint: the former did admirably so far as the wound was concerned; the latter died within a few days of the operation from profuse suppuration followed by pyæmia: the antiseptic treatment was carefully applied in each case. I mention this as one among many instances of the kind that have come under my notice.

During the month of July I was asked to see the infant child of Mr. S. Clarke (of this town), suffering from a large abscess in the right axilla. I opened it by a crucial incision, and ordered a poultice to be applied over the wound, the water from the poultice being squeezed out, and a small quantity of a mixture of one drachm of carbolic acid to an ounce of olive oil being mixed with the bread: a fresh poultice made in this way was to be applied every three hours. The following morning, on calling to see my patient, a heap of baby's linen was laid before me, covered with stains of a deep inky colour, produced by the child's urine drying on these articles of clothing. The mother had noticed that the child's urine and motions had been of a dark colour within a few hours after the application of the first poultice, and the patient seemed to pass every drop of liquid she

swallowed within a few minutes by the kidneys: so severe was the diuresis. It was evident that the carbolic acid applied over the wound was being absorbed into the child's system, and undergoing certain changes there, was thrown off by the kidneys and intestinal canal. I discontinued the poultices, and applied some lint and simple ointment over the wound. Nevertheless for the two succeeding days the diuresis continued, and everything that came in contact with the child's urine was stained of a deep inky colour; after this the pigmentation of the urine grew less, and at the end of four days it had assumed its normal appearance. I would, however, draw attention to the fact (which has been illustrated by several other cases) that, although the wound was often exposed to the air after the poultices were discontinued, hardly any pus was formed on its surface, from the morning after it was opened until it healed, leading me to suspect that the presence of the carbolic acid in the system (as indicated by the state of the urine) might have so influenced the healing process as to prevent the formation of pus on the surface of this open sore.

The circumstances of this case led me to a closer observation as to the presence of carbolic acid in the urine of patients whose wounds were being dressed with this acid. The test I have employed is to add some twenty drops of strong nitric acid to about four ounces of the urine, and if it contained carbolic acid, or rather substances derived from this acid, the urine within a short time becomes of a deep brown colour; the pigmentation is hastened by boiling, and after the urine has cooled, the addition of liquor ammoniæ often changes the brown into a yellow tinge; this latter is destroyed on the addition of dilute acids. The deep brown colour, however, produced on adding nitric acid to urine containing carbolic acid, or substances formed from it, is a test of easy application, and is probably sufficiently characteristic for clinical purposes.

Supposing pure carbolic acid be freely painted over a wound, the urine subsequently passed by the patient, although it may appear healthy, will change colour, as above noticed, on the addition of nitric acid, the carbolic acid being rapidly absorbed into the system through the wound, and afterwards excreted by the kidneys and the mucous membrane of the bowels.

If the acid is applied daily to an open sore, the wound being simply protected by a light bandage, it seems to me that so long as the urine indicates the presence of carbolic acid in the system but little suppuration takes place from the surface of the sore, and as a general rule it heals rapidly. But in severe instances where fever has attacked my patient while carbolic-acid dressing was being employed, I have failed to detect the presence of the acid in the urine, and suppuration from the wounded surface has been abundant.

I do not at present wish to commit myself to an expression of opinion as to the conclusions to be drawn from these facts, or to argue the point as to their explicability on the supposed non-absorption into the system of the acid during fever; but I would simply refer to the subject as affording us a promising field for investigation, and would propose to myself and those inclined to follow up the matter some such questions as the following :—

Is the occasional uncertainty attending the results of the carbolic-acid treatment in any way due to the non-absorption of the acid into the system? If so, is it not possible that the favourable effects of the antiseptic treatment may in part depend upon the influence exercised by the carbolic acid on the patient's system, in addition to the salutary local action it undoubtedly has upon the parts to which it is applied? I have noticed that, in several cases of large abscesses and wounds, the healing process has gone on rapidly, and almost without suppuration, the injured parts being covered with lint and simple ointment, and the patient swallowing from eight to twelve grains of carbolic acid per diem, so as to colour the urine deeply on the addition of nitric acid. I need hardly add, that this quantity of acid absorbed through the intestines affects the system as effectually as if taken into the blood from an open sore, and upon anti-dry-rot principles may protect the body from suppuration.



## ON HYPODERMIC INJECTION OF MORPHIA.

BY GEORGE OLIVER, M.B. (LOND.).

I AM glad the question of abuse of hypodermic injection of morphia has been raised by so excellent an authority on the subject as Dr. Allbutt. I have met with two undesirable results from hypodermic morphia: one connected with the oft-repeated use of the injections, the other with the operation itself. But after all, I think these objections to the hypodermic use of morphia are as nothing in the scale against the benefits conferred by this mode of treatment.

I. A craving for repetition of injections—mainly because of apparent or real benefit from them—with toleration of increasing doses of morphia; and after a time, great misery, and, to all appearance, considerable physical exhaustion, when the injections are withheld altogether, or the dose of morphia much reduced. This effect of the continued hypodermic use of morphia has no doubt been noted over and over again; it is evidently akin to the opium-habit; but unlike this, it is not attended by derangements of the gastro-intestinal tract; on the other hand, it not unfrequently does good to the stomach and bowels, and, above all, to the circulation; the feeble frequent pulse, for instance, not unfrequently opens up, and becomes firmer and less frequent; of course, hypodermic morphia by cutting off (at any rate very considerably) the baneful influence of pain on the heart and stomach may, on the principle of rest and ease, in great part produce these tonic effects. But against them we have the setting up of a morphia-habit and, as suggested by Dr. Allbutt, the possible—nay, in some cases probable—perpetuation of pain by oft-repeated injections of morphia, when resorted to as the sole method of medicinal treatment. I suspect it will be shown, by those practitioners who have had

large experience of the hypodermic use of morphia, that this mode of treatment does tend to perpetuate pain in certain cases. I believe these will fall chiefly under that class of patients suffering from obstinate chronic neuralgia; in fact, the very class for which hypodermic morphia was at first thought of specially as the cure. A prominent instance is presented in intractable menstrual neuralgia—neuralgic dysmenorrhœa. I have met with more than one instance of this kind of suffering which clearly supported the position, that one effect of morphia was to greatly aggravate the intensity of the periodic pain. Except in the very worst cases of this kind, when it may come to a balancing of evils nearly equal, I should refrain from prescribing the injections of morphia, even in very small doses, because of the danger of these leading on to larger and larger doses, and of a progressive increase of suffering proportionate thereto, when the time came for reduction of dose, and in particular when we must abandon the injections altogether.

But, on the other hand, I am convinced there is another important class of cases, though smaller than the foregoing, in which we may secure all the good out of morphia (alleviate pain and improve the general health), set up a morphia-habit, and then get safely over this habit by firmly withholding the morphia, and yet retain the good results—absence of pain and restoration of health. The cases I refer to are such as are apt to run a lingering course, with pain the principal element of trouble, and even of danger to the patient's life, affecting some part (*e.g.* some of the abdominal viscera) which clearly needs much a rigid application of the principle of rest and ease, so as to give Nature the most favourable opportunity of restoring some damage done, of effecting her own cure, which she is unable to do while the part is in a state of irritation, and perhaps of undue activity. Here hypodermic morphia may help us much in the cure; it may secure the intelligent end of rest for long periods, besides the temporary alleviation of pain far better than any other means at our disposal; and the rest and ease are not for the patient's comfort only, but also for his cure. In such cases pain is not perpetuated by hypodermic morphia; it diminishes day by day until it has quite gone, and when the morphia is given up—if the cure of the affected part be com-

plete—it does not return. This may be best illustrated by a case of which the following is a brief outline.

Mrs. R., aged 32, when in her usual health stout and robust. A week or two after her first confinement, which was in every respect easy and natural, she was seized with what appeared to be an attack of ordinary typhoid (this fever had been in the house adjoining a few months before ; the drains were altogether very unsatisfactory ; into her bedroom drain-effluvia entered ; and drinking water was taken from a well within a few feet of the ordinary drain, privy, and ashpit) ; but there were no spots. Towards the end of the fourth week she had most troublesome bowel complications—tympanitic distension, severe paroxysmal pain, &c.—which really for a time threatened her life, and from which she only recovered imperfectly. She got about the house after a while, the abdomen still a little blown. In a week or two paroxysms of most severe pain within abdomen came on, accompanied by very loud rumbling and bubbling sounds, and she completely broke down. The abdomen was tympanitic : nowhere could I detect dulness or any indications of faecal accumulation. Pressure of hand over umbilicus produced great pain, which appeared to be connected with vermicular contraction of bowels, and this could be seen travelling across the abdomen, and setting up loud rumbling. Every now and then severe pain came on without any external exciting cause. Obstinate sickness would last for hours together. There was great uncertainty as to the kind of lesion, the cause of all this trouble ; but there was much evidence to support the theory of obstruction, and, in fact, the pathological reading of the symptoms could only come to this. Enemata and aperients were resorted to on the slender hope of there being faecal accumulation, but these means were tried with a doubting mind as to whether they might not do harm to the bowel possibly distressed by some pathological lesion. The result of this treatment was far from satisfactory ; and I was led again to give aperients only at the request of a practitioner of great experience whom I met in consultation, and the symptoms were again so much aggravated by them, that I was compelled for the patient's safety to relinquish them as positively harmful. Then sedatives by mouth and rectum were diligently tried ; suppositories per rectum had, however, little chance

of doing much good, because there was great relaxation of the sphincter ani. Then for a while I gave up all medicinal treatment. The patient's condition became daily worse and worse,—vomiting and pain more severe, emaciation extreme, pulse from 120 to 150, very small, face pinched. Though we only got an evacuation now and then, still it seemed every day more and more clear that to give rest and ease to the distressed bowel was the correct thing to do in the way of treatment, and all hope of a successful issue seemed to centre in that. At last we determined to rely entirely on the hypodermic injection of morphia night and morning. The severe pain and loud rumbling (which before the injections had been almost constant) at first gradually diminished in intensity, and these, in the course of a week or two, entirely ceased after every injection, but still frequently returned towards the time of the next injection. It was clear we were gaining ground, and we had at last got rest to the bowel. As the night and morning injections were continued, it was most interesting to observe how the tongue cleaned and the vomiting ceased, how food began to be tolerated by the stomach, how the appetite returned day by day, how the pulse enlarged in volume and became more and more reduced in frequency, how the previous constipation gave way (without any treatment specially addressed to it), and, as a result of all this, how the flesh and strength came back. Progress dated from the time the irritated bowel got under the influence of hypodermic morphia. In the course of a few weeks it was observed that the omission of only one injection at the usual time caused the patient to pass several miserable hours—not so much from pain in abdomen, though this was still felt, as from a feeling of great prostration, as if because of the withdrawal of an accustomed stimulant. Being fearful lest my patient, imperfectly cured, should, without the injections, relapse into something like her previous state, and seeing how useful the morphia appeared to be as a tonic, I advised the night and morning injections to be continued. This was done for two months, and then she had one injection daily for three months more. She now being quite restored to her usual health, the only remaining thing to do was to withhold the injections, and this involved a struggle. I sent her away without her syringe (she injected herself), and she passed a few

very miserable days, and got over it without further trouble. I might have stopped the morphia before this, but it appeared to me it brought back her health far more quickly than any other tonic I could have prescribed.

I look upon this case as a triumph for hypodermic morphia ; without it I fear my patient would have died. But besides this bright side, the case shows there is undoubtedly such a thing as morphia-habit, which may, however, be overcome without harm resulting.

I relate this case for the purpose of insisting on the fact, that medical cases *now and then* appear, which may be best treated even for long periods by hypodermic morphia alone ; and chiefly because this is perhaps the best medicinal means the physician has for carrying out efficiently the valuable principle of rest and ease to excited and irritated parts, so as to put them into a state in which natural restoration is favoured, and to shield the nervous system, and the heart in particular, from the depressing influence which they are apt to exert upon these important organs. I have found that pain and unrest of the viscera—parts supplied by the sympathetic system—are very susceptible to the control of hypodermic morphia ; and when doses of this remedy are repeated often enough, and for a sufficiently long period, it forms no small item in contributing to the restoration of the affected part—if repair will go on at all—and of the patient.

Then of course, as everybody knows, there is the class of recently established neuralgiæ—*e.g.* sciatica in particular—which, even when rather obstinate to ordinary treatment, often gives way under hypodermic morphia alone, and this does not in any sense perpetuate pain, even when the treatment must be pushed on for some time.

II. Alarming symptoms may arise from the injection of morphia directly into a vein. This accident must be of rare occurrence ; yet it should be kept in mind. I have only met with (what I suppose was) one instance. Immediately after the morphia was turned on, the patient cried out with an expression of great alarm, eye-balls prominent, face very red, pulse extremely small. Brandy was given freely, and all came right in about half an hour. The patient told me afterwards something shot to the head like lightning the instant the injection took place. On

withdrawing the syringe there was a good deal of hæmorrhage. The patient had had several injections before without any untoward results. I have thought of the possibility of sudden death from the injection of morphia into a vein. Might not some of the deaths which have followed the hypodermic use of morphia be referred to this cause? To avoid such a serious risk, we should keep from parts freely covered by superficial veins, and insert the syringe perpendicularly to the surface, and not in a slanting direction under the skin, so as to avoid running the needle along the longitudinal axis of a vein.

REDGAR, *December* 1870.

## CONTRIBUTIONS TO THE PATHOLOGY AND THERAPEUTICS OF DIABETES.

BY A. DUPRÉ, PH.D.

*Lecturer on Chemistry at Westminster Hospital.*

IN No. XXIII. of this journal (May 1870) I published a short paper on the above subject. In that paper a series of experiments was described, showing that a patient then under my observation, who was suffering from diabetes, had certainly not lost the power of oxidizing the sugar added to his diet. It was there shown that probably none, and certainly less than 1 per cent. of the amount of fruit sugar consumed daily, passed off through the kidneys.

In the course of the observations then made, it was also found that the honey (a mixture of fruit and grape sugars) which the patient was taking, had a remarkable influence on the amount of urea excreted, diminishing it to a very considerable extent. Thus on the last day of the honey diet, the urea had sunk to 23.76 grms. in the twenty-four hours, rising suddenly to 50.60 grms. on the day following. As this effect of the honey, if it should prove to be a normal occurrence in diabetes, seemed to me to throw some new light on this disease, I have taken an opportunity recently again offered of once more examining this question.

The patient is a young man who has suffered from diabetes during a period of six months. He became an inmate of the Hospital on November 11th, 1870. The urine was examined, firstly, during two days on which he took only his regular diet; secondly, during eight days, when at first  $3\frac{3}{4}$  and then  $8\frac{3}{4}$  of honey were taken daily, in addition to his regular diet; and thirdly, on four days after the honey had been discontinued.

His diet consisted at first of meat 63, gluten bread  $\frac{1}{2}$  lb., greens, and 33 of brandy.

On December 15th the meat was increased to 83, the rest of the diet remaining unaltered. His appetite improved somewhat during the time he took the honey, and he consumed rather more gluten bread than before. The total quantity of urine passed during twenty-four hours, from 9 A.M. one day to 9 A.M. the next, was collected; it was then measured and a sample for analysis taken, after thorough mixture of the whole. Only half-pints were regarded in the measuring. The dates given in the table are those of the day previous to that on which the urine was measured; any effect produced by alterations of diet, exercise, &c. &c., on the amount of urea discharged, is thus at once made apparent.

The analytical results are given in the following table:—

Date.	Honey taken.	Urine in 24 hours.	Urea per cent.	Total amount of Urea in grms.	Further particulars.
Dec.		cup. cent.			
12	none	5680	1.150	68.596	Out walking two hours.
13	none	5964	0.950	56.658	" "
14	33	5680	0.720	40.896	" "
15	33	5396	0.950	51.262	Out two hours, meat raised to 83.
16	33	"	0.700	37.772	In bed several hours.
17	33	"	0.900	48.564	Out walking two hours.
18	83	"	0.870	46.945	Indoors all day.
19	83	"	0.600	32.376	" "
20	83	"	0.620	33.455	Out walking two hours.
21	83	"	0.450	24.282	Indoors all day.
22	none	"	0.750	40.470	" "
23	none	"	0.670	36.153	Indoors, and in bed several hours.
24	none	—	—	—	Indoors all day.
25	none	5396	0.725	39.151	" "
26	none	—	—	—	" "
27	none	5112	1.050	53.676	Out walking two hours.

An examination of the table will show that, as soon as the honey was added to the diet, a perceptible diminution of the urea took place, the effect becoming more marked after the honey had been raised to 83 daily. The urea, from having been 68 grms. and 56 grms. on the two days preceding the honey diet, gradually fell to 24 grms. on the last day of the honey diet. The day after the honey had been discontinued (Dec. 23)



the urea went up to 40 grms., although the patient took exactly the same diet, and was kept as near as possible under the same conditions. The remarkable diminution of the amount of urea discharged in twenty-four hours, produced by the honey diet, which had been observed in the former case, is thus clearly apparent also in the second case, and we are therefore justified in concluding that its effect would be similar in all other cases of the like nature.

The table will further show several other interesting particulars. Thus, according to Bischoff, the quantity of urea discharged during twenty-four hours is practically independent of the amount of work performed during the same twenty-four hours, and is influenced chiefly by the diet taken. In the case of this patient it seems, however, as if even small variations in the amount of work performed (*e.g.* between being up all day and moving about the ward, walking out for two hours, or lying in bed a few hours during the day) had a very marked effect on the urea; see the large amount of urea on such days as the 12th, 13th, and 27th, or the relative small amounts on the 16th and 23rd. The effect of an alteration in the diet is well observed on the 15th, on which day the daily allowance of meat was raised from 6½ to 8½.

In how far the facts here brought forward may be thought to justify the use of a sugar diet in the treatment of diabetes must be left for others to decide, the chief object of the writer being to point out some of the difficulties to be encountered by the prevalent theory regarding this malady in presence of the foregoing facts. The chemical and analytical reasons then, which, to the writer, seem to point to the conclusion that the sugar found in the urine of patients suffering from diabetes has not been present as such in the blood, but is produced only during its passage through the kidneys, may shortly be recapitulated as follows.

The oxidizing power of the system for fruit sugar is unimpaired; and as this sugar is certainly not more easily oxidizable than grape sugar, the same may be assumed to be true in regard to grape sugar.

The amount of sugar found in the blood of diabetic patients, both by Professor Lehmann and the writer, is apparently in-

sufficient to account for the great quantities of sugar contained in the urine of such patients.

Lastly, the addition of even a moderate amount of honey to the diet of diabetic patients causes a marked diminution in the amount of urea discharged, and this fact seems difficult to reconcile with the notion that the large quantity of sugar found in the urine of these same patients had previously existed in the blood.

## SOLUTION OF SANTONINE.

BY JOHN HARLEY, M.D. LOND., F.R.C.P., ETC.

THE insolubility of this vermifuge impairs its utility. Cold or warm water takes up the merest trace. Chloroform, absolute alcohol, the strongest acetic acid, turpentine, hot olive oil, and hot glycerine are the only simple fluids that dissolve any appreciable quantity. On cooling, it separates from the oil and glycerine; and the addition of water to the other solvents produces the same result.

It is obvious, therefore, that none of these solvents are adapted for the use of Santonine as a medicinal agent. A wish to determine the effect of Santonine in parasitic disease of the bladder led me, after a good deal of trouble, to find that I could form a suitable stronger solution than was needed for my purpose by means of carbonate of soda.

I may formularize my results thus:—

R. Santonini, in pulvere, gr. xij.

Sodæ bicarbonatis, gr. xx.

Aquæ destillatæ ℥ij.

Put the soda and water into a flask, keep the fluid near the boiling-point, adding, as it disappears, about two grains of the Santonine at a time, until the whole is dissolved. Solution is effected in about half an hour, during which time the water is reduced to ℥ij. If need be, reduce by boiling to this bulk, when ℥j will contain a full dose—six grains of Santonine. If an alkaline reaction be objectionable, neutralize with acetic acid.

*Characters of the Solution.*—Bright and permanent, strongly alkaline, free from odour, and, excepting that of carbonate of soda, of taste. Carefully neutralized with acetic acid, an equally bright and permanent neutral solution is formed. Both the alkaline and neutral solution may be diluted to any extent with

either cold or hot water, without impairing the perfection of the solution of the Santonine. Excess of acetic acid, after some hours, and the mineral acids immediately precipitate the whole, or nearly the whole of the Santonine, unchanged and in its original form of colourless, rectangular plates with bevelled edges.

*Use.*—By the process above described we obtain a bland *alkaline solution*, so completely void of irritating qualities that it may be dropped into the eye without causing the least sensation; and a *neutral solution*, for use in those cases in which an alkali would be unsuitable.

Mixed with from one to twenty times its bulk of acid urine, sp. gr. 1017·5, and containing excess of uric acid, and retained at 100° Fahr. for several hours, not the faintest turbidity is produced, unless in the case of the alkaline solution, and an excess of phosphates in the urine, when a faint cloudiness may occur from the separation of the latter.

This proves that excess of acid urine (uric acid) fails to cause a deposition of Santonine.

As an injection, from ʒss to ʒj (three to six grains) of either solution may be mixed with three or four ounces of warm water and passed into the bladder or rectum.

I have already shown that absorption is readily effected by the mucous membrane of the bladder;<sup>1</sup> and therefore general as well as topical effects may be expected when Santonine is introduced by this channel.

In cases where powders are objected to, a pleasant mixture may be made by adding a little syrup and flavouring water to the Santonine solution.

<sup>1</sup> See my last communication to the Medico-Chirurgical Society on the Endemic Hæmaturia of the south-east coast of Africa.

## ON THE USE AND ABUSE OF ALCOHOL BY WOMEN.

BY THE EDITOR.

ALMOST at the moment of going to press with the present number of this journal we are induced to write the following paper, by seeing in the *Saturday Review* a powerful though somewhat sensational article on "Drawing-room Alcoholization," which deals with points that touch the honour and conscience of the medical profession very nearly. We had intended shortly to publish some remarks on the special position of women with regard to the use of alcohol, by way of an addendum to our recent papers on the Dietetic and Medicinal Uses of Wines in general, and the appearance of the above-named article leads us to do so at once.

The *Saturday Review* article only repeats, in a more distinct form and with more picturesque illustration, a statement which has been more or less plainly hinted by several writers in medical journals during the last few years, namely, that the women of our middle and upper classes are becoming infected, to a perceptible and alarming extent, with the tendency to alcoholic excess; that in not a few instances this goes the length of positive and shameful tipping either habitual or frequent; and that a still larger number of ladies drink, unconsciously, enough liquor to produce a seriously degrading effect upon their mental purity and energy, although they afford no open scandal to the world.

The *Saturday Review* also not obscurely hints, what medical writers had already hinted, that the tendency to excess in educated women has been in many cases aggravated, if not altogether produced, by the indiscreet prescription by doctors of stimulants; as a relief from the thousand and one petty miseries of body and mind that are the special product, in weak organisms, of the

wear and tear of social life, under the high pressure of modern civilization.

In commencing the consideration of these very grave statements, we shall at once admit our belief that they are to some extent true; and we may remind our readers that, more than eighteen months since, we endeavoured,<sup>1</sup> though in more cautious language, and with more specific illustration by particular cases, to arouse the attention of the profession to the existence of these evils. But as the matter has been brought openly before the general public, we think it necessary (chiefly for the benefit of the latter) to make two important qualifications of the general statements of the *Saturday Review*, which it is important, for the honour of the profession, that every one should understand.

It is, in the first place, well known to those who study nervous diseases, though scarcely known at all to the public, that vast improvements have been made, of late years, in medical knowledge of the more obscure effects of chronic drinking; the result of this has been that we now repeatedly detect this vice as the real cause of anomalous symptoms, which in former times would have been attributed to "hysteria," and such-like vague and intangible influences. It is therefore certain that a notable portion of the apparent increase of secret drinking amongst women is simply increased *detection* of the habit. Secondly, as regards the responsibility of doctors, who are supposed to have often given the unfortunate impulse to excess, by the careless prescription of stimulants for nervous ailments, a large discount must be allowed for a fact which the grieved and indignant friends of women who thus disgrace themselves habitually ignore. That fact is, that all tipplers become more or less untruthful, but that female tipplers invariably become shameless and most skilful liars. And the favourite lie which they invent as an excuse for their habits, is an apocryphal medical order "to take plenty of support and stimulants." We have personally detected the manufacture and skilful dissemination of this particular falsehood in several instances, and the practice is notorious to physicians who see much of nervous diseases.

These qualifying abatements being made, however, we have no

<sup>1</sup> Indiscriminate Stimulation in Chronic Disease : *Practitioner*, July 1869.

hesitation in admitting the general fact, both of the somewhat increasing prevalence of alcoholic excess among educated women, and of the partial responsibility of the medical profession for its occurrence. These things are very serious, and they demand the earnest attention of all medical men. Especially do they appeal strongly to the conscience of those who, like ourselves, have openly argued in favour of alcoholic liquors, both as valuable medicine in particular diseases, and as a valuable part of the ordinary diet of large classes of healthy persons. We frankly admit that our teetotal friends have a right to ask us, pointedly, what course we intend to take in view of the existing and growing evil. They will ask—they do ask—how we can dispute that this spreading of a degrading vice in such unlikely quarters, its dissemination among refined and delicate women, shows the thoroughly treacherous nature of all alcoholic drinks, and the necessity of abolishing their use altogether. In answer to this, we shall endeavour to show that those doctrines which we have uniformly upheld, are not merely entirely guiltless in this matter of the encouragement of drinking by women, but that their careful development in relation to the special circumstances and constitution of women is absolutely necessary, if any really successful stand is to be made against the tendency which we all deprecate.

We cannot, of course, in this place discuss the general arguments in favour of total abstinence, and of the moderate use of alcohol, respectively; we can but indicate our general view of the teetotal panacea, before describing the plan which we prefer to it. We dispute the intrinsic propriety of total abstinence from alcohol, as a rule to be enforced on the community, for precisely the same reason that we object to monasticism, or any other attempt to defeat and destroy (not to control) any of the legitimate instincts of the organism. For we shall take it as admitted by the great majority of physiologists, that the conscious or unconscious demand of the body for a nervous stimulant element of one sort or another in the daily food, is universal in the history of all but the lowest savage races. And as regards the actual effects of moderate drinking and of abstinence, as shown by experience, we maintain that no reliable records exist, on any sufficiently large scale, to test the results of the latter practice. We must also distinctly repudiate the accusation

continually made against those physicians who advocate the moderate use of alcohol, that they take no heed of such facts as are really to be had in reference to the results of teetotalism. We have repeatedly tested, in our own person, the effects of abstinence, and, what is more important, we have had the opportunity of observing them in families where teetotalism has been the rule for two generations, and can affirm that the results were anything but favourable. But upon this subject our final word at present must be this: that it is impossible for one moment to admit the scanty and partial records of teetotalism as in any sense comparable in value to the wide-spread and immemorial experience of moderate drinking customs. All that can be allowed by the most liberal candour, is the possibility that total abstinence may, in the course of years, produce a stronger case for itself than at present exists.

In the meantime it is clearly the duty of those who think that they see real benefits attaching to the dietetic and medicinal *use* of alcohol, to see if any rules can be laid down, which are practically sufficient to prevent the *abuse* of this agent. And the case of alcohol drinking by women is particularly fitted to bring this inquiry to a decisive point.

If there be any truth in the doctrine which we have consistently upheld—that alcohol, so far as it is useful, is applied in the economy as a force-producing aliment, but that the amount of it which can be employed in this manner is limited, and that all excess beyond this acts as a narcotic poison to the nervous system—then, assuredly, there must be, apart from the accidental circumstances of disease, three determining factors in the question, What is moderation and what is excess? In the first place, there is the proportion, by weight, of the alcohol to the body, and especially to the blood. Secondly, there is the degree of rapidity of oxidation, proportionate, chiefly, to the amount of muscular and nervous force developed in the organism. And thirdly, when all the alcohol that can be oxidized has been oxidized, there remains for consideration the degree of vital resistance which the nervous tissue can offer to the residual unchanged alcohol that remains in the blood to act as a narcotic poison. If, then, we seek (among adults) for a type of the kind of organism which would be most feebly tolerant of alcohol, we



should find it in women, more particularly in those belonging to the indolent classes. For here (a) the bulk of the blood and muscles is relatively small; (b) the oxidation processes are moderate; and (c) the nervous tissue is weakly compounded, mobile, easily deranged. When we consider that in each of these three particulars women are, on the average, strikingly different from men, we shall hardly doubt that, as a general result, the quantity of alcohol appropriate to their use must be greatly smaller, probably not more than half, the allowance of men of active lives. This being the theoretical probability, what are the facts as actually observed?

Unfortunately, a considerable proportion of the women of the higher, and of the higher middle classes, by no means adhere to any such theoretical standard, but greatly exceed it. In former papers, in this journal and elsewhere, we have shown that  $1\frac{1}{2}$  ounces of absolute alcohol, or two in the case of unusual exercise of body or mind, is about the maximum standard for the allowance of adult men: and the recent researches of Dr. Parkes confirm this belief, at least so far as showing that indubitably evil results follow when it is considerably exceeded. If such a quantity be the proper allowance for a man weighing 160 lbs. (mostly bone and muscle) and always engaged in powerfully exerting either his muscles or his brain, or both, it would surely seem reasonable to say that a woman, weighing say 120 lbs. (much of it fat), and hardly ever using either her muscles or her brain vigorously and continuously, ought, at the outside, not to exceed the daily quantum of  $\frac{3}{4}$  ounce absolute alcohol, which would represent about two ordinary glasses (two ounces each) of the usual highly fortified sherry or port which ladies prefer. No physician who sees much London practice, however, will deny that a great number of ladies take twice and some three or four times this quantity: it is quite a common thing to find this out casually; and to the doctor who takes that conscientious interest in the general welfare of his patients which we would fain believe that every medical man does take, this is a most embarrassing and disquieting discovery. In what proportion of cases the average practitioner (in whatever nominal rank of the profession) rises to the situation, and acts as the importance of the case really demands, it would be difficult to estimate: our

own impression is that these dangerous dietetic mistakes are very often (after a feeble remonstrance) allowed to continue, the doctor thinking that it does not very much concern *him*. Another way in which medical men often fail to do their duty is, that they do not ascertain, with sufficient accuracy, whether a daily dosage of alcohol, ordered for a particular temporary purpose, has or has not been relinquished when the occasion for it ceased. At the termination of an acute illness, such as a fever, or a confinement attended with great hæmorrhage, in which large quantities of alcohol have happened to be required, it is quite easy to get the patient to give up the remedy: your orders to that effect are cheerfully obeyed. If you fail to give such orders, the patient, though not wishing for it, and even suffering much disgust in the process of taking it, may continue her half-bottle of sherry a day for weeks or months, perhaps. The effects of this are most disastrous, for there is now no true toleration for such doses: the patient really undergoes a daily narcotisation, and a comparatively short course of this conduct is sufficient to implant, in the unstable nervous systems of women, a firmly-fixed drink-craving. It cannot be too distinctly understood that medical men who allow such occurrences to take place are acting, not in accordance with, but in absolute opposition to, those principles which were sketched by Todd, and have been further developed by ourselves.

We shall not occupy space, now, by going over the ground on which we most dwelt in our article of July 1869: viz. the peculiar dangers of alcoholisation to women who suffer from neuralgias, especially that painful kind which attends *dysmenorrhæa*. But there is one aspect of the relations of alcohol to women upon which, as yet, we have nowhere dwelt, and this omission we are most anxious to repair. We have already laid down, on various occasions, the principle that alcoholic narcotisation is specially dangerous to women during the whole period of sexual life, and especially at the crises of that life. We have also expressed the decided opinion that young persons of either sex, whose frame has not yet consolidated, should, as a rule, be limited to very small quantities. But we have not expressed with distinctness the strength of our feeling on the question of alcohol, as an article of diet for young girls between puberty

and marriage. For some years past we have been silently watching the course of social customs on this point, but it is now our duty to speak plainly. In the first place, we must notice the fact that many girls of the wealthy middle, and of the upper classes, *especially the former*, are of late years taking to consume all kinds of wine, and particularly champagne, to an extent which used never to be permitted. At many modern ball-suppers champagne flows like water, and the attentive observer will soon perceive that it is not the men, by any means, who do the largest part of the consumption. These same young ladies, who have so freely partaken of champagne overnight, will next day, at lunch, take plenty of bottled beer, or a couple of glasses of sherry. Dinner comes round, and again either champagne, or hock, or port, or sherry is drunk, not less than a couple of glasses being taken. And then the evening very often brings a party of some kind, with the inevitable champagne or sherry. We are speaking of things which we have seen, when we say that many girls who live among rich (especially *nouveau riche*) and gay society, are in the habit, during six months out of the twelve, of taking (in the shape of wine, &c.) a daily average of *two, two and a half, or three ounces of absolute alcohol*, a quantity which, if expressed in cheap beer, would be equal to *six or seven pints*. Exceptional instances could be cited, of even larger quantities being taken. We have only one word for all this, and that is one of unmitigated condemnation; and we maintain that the family doctor who sees this sort of thing going on, without most strenuous remonstrance, is highly culpable. Persons who do not closely observe what goes on around them, may think that the *Saturday* reviewer exaggerated, or suggested falsely, when intimating that an unfavourable stimulus is often given to the animal nature of young women, by a careless adoption of the habit of taking considerable quantities of wine; for our own part, we believe the remark to be perfectly correct. We do not mean to say that, in any considerable number of cases, the change of character is one which shows itself in overt acts; but there is a subtle change, perceptible enough to those who study character with any care, telling of the gradual decline of the intellectual, and the increased prominence of the sensual, tendencies; and this kind of alteration we have ourselves

observed, or we are greatly mistaken. But the *Saturday* reviewer has made what seems to us a strange mistake in one respect. He speaks as if he thought that the present agitation in favour of "women's rights," were a phenomenon parallel to, if not directly connected with, the results of the various influences which, in modern society, seem to stimulate the animal nature unduly. In this we think he does a great injustice, and really fights against the objects which he has at heart. There may be any amount of exaggerated and mistaken enthusiasm mixed up with the women's rights movement; but we believe, and to that extent it has our sincere sympathy, that so far from that movement being dictated or in any way influenced by a coarse desire to share the material indulgences which are at present more easily excused in men than in women, it is a direct revolt against the whole tendency to sensualism which the state of society during the past few years has developed into such unpleasant prominence. The hardened blue-stocking of the self-asserting type is no very favourite character with us; but she is positively refreshing when contrasted with the full-blown specimens of young ladyhood who seem to be perfectly content with life so long as it consists of an endless round of dancing, heavy meals and copious champagne, and theatres at which one listens to idiotic burlesques enlivened (!) with break-down dances. And it can hardly be denied by any one that the latter kind of female character has become astonishingly more common of late years indeed, the prevailing caste of our public amusements indisputably proves that this is the case.

It may be that we think too strongly on this point; but we confess that in our opinion alcohol ought to be almost entirely withheld from young women during that critical period of their lives when the sexual function is developing. Very large supplies of simple nourishing food can and ought to be taken, under the stimulus of unlimited fresh air, and free physical exercise; but the appetite and digestion should not be stimulated with alcohol, except in cases where one or other of those distinctly diseased conditions exists, which we specified with some care in our article on "Indiscriminate Stimulation."<sup>1</sup> And there is another item of management which we venture to think is of as much

<sup>1</sup> *Practitioner*, July 1869.

consequence as anything. "Plain" but copious "living" should be joined with "high thinking." It would be easy to misunderstand our meaning, and to fancy that we were partisans of the pestilent modern system of cramming young ladies with disjointed fragments of two or three dozen different languages and sciences. We mean the very reverse of all this. The habit of mind which is most nearly and closely associated with a somewhat too stimulating diet, is one to which the profitless excitement of the cramming system is most congenial; it is the very opposite of that which we should desire to see cultivated among young ladies, and which should have for its aim the acquirement of a satisfactory knowledge, not a mere smattering, of the chief works in English, French, and German history and literature. All this may be thought a sad digression; yet it is really directly connected with our subject. These wholesome stimuli of the mind are not merely negative in their relation to the development of the organic nervous system. If all the studies which a young girl is put through consist of hasty and artificial cram, her permanent objects of *interest*—the things to which she turns with real liking—will not be the refined pleasures of poetic feeling and imagination, but the coarser emotional stimulants afforded by sensational novels,—and that man must be strangely unobservant who does not see the growing demand for this kind of mental food, and the increasing coarseness of the material with which alone a large class of our young ladies can be satisfied. A state of mind is unquestionably thus fostered, in which every animal feeling comes nearer to the surface of the character, and has greater prominence in daily life than it would otherwise have had. There is no need to tell any medical man how frequently the painful results of this are seen in general disturbance of the nervous system. But we believe that it is only those physicians who practise specially in nervous and mental diseases who at all suspect the frequency with which such cases are complicated by the development of a passion for drink which must be considered as only one special phase of the unhealthy predominance of organic excitability over voluntary energy and the power of self-control. Not needlessly, then, do we suggest the training of the higher faculties of the mind, as an essential prophylactic against that morbid state of the

nervous system which places young women in danger of abusing an agent, like alcohol, of which they may have casually discovered the power and the charm.

To conclude this paper in a practical way, we shall make one definite proposal which deserves the careful consideration of medical men. We have no desire to absolutely forbid alcohol to young ladies; but we do insist that their habitual allowance ought to be very small, and, above all, that irregular occasions of taking it should not be provided. In reference to the latter point, there is one proposal which, if approved by medical men, and strongly urged by them on the fathers and mothers of families, would probably effect a great reform, and remove a source of serious danger: we mean the proposal to do away, entirely or for the greatest part, with the provision of alcoholic drinks at evening parties for women. It may seem a quixotic project; and to some it may appear disgustingly inhospitable. Yet it seems to us that the true ideal even of hospitality (and assuredly that of real refinement) is to be found in the custom, still lingering in many continental places, of simple evening entertainments at which there is not very much to eat, and nothing to drink beyond a little lemonade and iced water, but which are frequently repeated, and are made thoroughly amusing to the guests by careful provision for their varied tastes for music, dancing, charades, &c., &c. The modern rout or ball-supper is becoming a perfect nuisance, intolerable in the burden of expense which it lays on folk of moderate income, and not without danger in the taste for free wine-drinking, which is occasionally generated by a liberal supply of champagne and moselle. It may be taken that nearly all the wine consumed at these entertainments is so much in excess above the otherwise sufficient daily quantum drunk with the ordinary meals. And if it be argued that the fatigue of long and late entertainments really does create a demand in the system for a decided stimulant, then we shall answer that the obvious remedy is the abridgement of these same entertainments, the preposterous length of which is notoriously the terror and disgust of every sensible man and woman who has outlived that brief time of calfhood in which it seemed pleasant and gay to kick up one's heels till four o'clock in the morning.

## Reviews.

*Insanity and its Treatment: Lectures on the Treatment, medical and legal, of Insane Patients.* By G. FIELDING BLANDFORD, M.D. Oxon., F.R.C.P.; Lecturer on Psychological Medicine at the School of St. George's Hospital, London. Edinburgh: Oliver and Boyd. London: Simpkin and Marshall. 1871.

*Body and Mind: an Inquiry into their Connection and mutual Influence, specially in reference to Mental Disorders:* being the Gulstonian Lectures for 1870, delivered before the Royal College of Physicians. By HENRY MAUDSLEY, M.D. Lond., F.R.C.P., Professor of Medical Jurisprudence in University College, London, &c. &c. Macmillan and Co., 1871.

THERE is no need for a long review of the second of these books; for not only has Dr. Maudsley raised himself to a position of authority in psychological medicine which ensures numerous readers for everything he may write on his own great subject, but these particular Gulstonian Lectures were listened to, when delivered, by crowded audiences, and were afterwards reported pretty fully in the pages of the *Lancet*. The volume, however, especially considering the addition of its most interesting Appendix, is one which must have a permanent place in every practitioner's library, for it distinctly marks a step in the progress of scientific psychology. Dr. Maudsley's views may or may not be altogether true: but at least he puts forward a theory which it is impossible to ignore or pass by. Organic necessitarianism (if we may coin a phrase) as the groundwork of all mental character, and all tendency to particular mental derangement—this may be said to be the principal article of Dr. Maudsley's lofty, but somewhat gloomy creed respecting human nature. There is much wisdom as well as beauty in the eloquent words with which he rebukes the foolish pedantry of the metaphysical school, and their obstinate adherence to the view that the mind is degraded by its connection with the body: and it is refreshing to read his protest against the endless harping of philosophical writers on the words "materialism" and "spiritualism," words which those who have any acquaintance with the history of philosophy know right well have never had

fixed and definite meanings, and have never done anything but breed idle contention. The book has also very great interest in regard to every-day practice: for, after all, it is the ordinary practitioner, and not the professed alienist, who has to treat those slight beginnings of mental alienation the seeds and symptoms of which Dr. Maudsley shows to be so often detectable in the behaviour of the organic nervous system. Above all, it is the ordinary practitioner who has by far the best opportunities of acquiring accurate information respecting that all-important matter—family history—the influence of which Dr. Maudsley most impressively demonstrates.

It is with Dr. Blandford's book, however, that this journal is more immediately concerned: the more so, because it has not yet had the same amount of introduction to the profession, and because it satisfies a want which must have been sorely felt by the busy general practitioners of this country. It takes the form of a manual of clinical description of the various forms of insanity, with a description of the mode of examining persons suspected<sup>1</sup> of insanity, and a carefully complete account of every legal formality which has to be attended to by the medical man and the friends in case either of restraint at home, restraint in an asylum, or a commission of lunacy. It contains also, by way of introduction, two or three chapters in which are condensed, with considerable skill and lucidity, the pith of the author's views as to the connection of mind with the nervous system, the physiology and pathology of the latter, and the classification of mental diseases. Of the more general and theoretic part of the book, the portion which strikes us as most interesting is Dr. Blandford's view of the nature of emotion, of the relations of emotion to other mental states, and of its relation to the nervous centres: for the whole theory of what (under the names of "impulsive insanity," "moral insanity," "homicidal monomania," and so forth) has produced so many medico-legal scandals is closely involved in this. Dr. Blandford neither recognizes emotion as a distinct division of mind nor (still less) admits that it possesses appropriate nervous centres of its own; for him, emotion is only the *feeling of ideas*, and consequently the existence and the degree of emotion in any particular case is very much the mere expression of the intensity with which some intellectual or motor act has been performed. Such intense nervous acts *overflow*, as it were, in all directions; they may invade, for instance, the regions of painful sensory perception on the one hand, and of vaso-motion on the other. And as regards the supposed speciality of a mental derangement chiefly evidenced by sudden morbid impulse, Dr. Blandford speaks with a thought-

<sup>1</sup> We call particular attention to this feature of the book, as giving it a unique value to the general practitioner.



ful clearness which is much needed at the present day. The average lawyer, when confronted with the case of a drunken bricklayer who has become epileptic, and in the epileptic *furor* suddenly beaten out some one's brains, can see nothing but the fact that the homicide, when interrogated, shows no evidence of delusion. The professional philanthropist, on the other hand, habitually seeks to prove that every murder suddenly committed under an impulse of anger is to be excused on the ground of irresponsibility, from the mere fact of the passion and ferocity with which the act was performed. Very different is our author's view. He says, in fact—Here is a man with the insane temperament, a man who has a peculiar history both as regards himself and his family. The really irresponsible murderer will always exhibit peculiar features, when we inquire into these matters. It is not that one little piece of his brain was wrong, the rest being sound; if you ask about him more closely, you will be more likely to come to an extreme conclusion in the other direction; to say that there was not a nerve-cell in his whole organism which was not potentially insane from his birth. It is not only that we find in his childhood and youth plain evidences of a strange difference of character from those around him, which the word "eccentric" only feebly conveys: we find a far more damning chain of facts in the history of the various neuroses, epilepsy, hypochondriasis, cerebral softening, neuralgia, or even declared insanity, by which various individuals of the race have been interchangeably affected. It is in such a subject as this that the *explosive* tendency of masked epilepsy, or of the unstable condition sometimes remaining in the nervous centres *after* a fit, sometimes bursts out and overflows in all directions. The man has been a potential madman, in every cubic inch of him, all his life: the one necessary additional factor has been added (in the form of epileptic stupor, perhaps), and immediately he does the first emotional act that comes to hand—which *may* be a murder.

We very heartily agree with this view. It is time that we heard the last of those miserably discreditable theories which some medico-psychologists are always ready to broach in favour of a murderer or against the validity of a will, and which assume the individual to have been "morally insane," but not insane in any other way. Either the man was mad or he was not: but it ought to be well understood that a man may be as mad as possible, and the insanity may affect large and varied groups of his mental actions, without once producing the phenomenon of specific intellectual delusion. It is a great gain that two psychological writers of the rank of Dr. Maudsley and Dr. Blandford should coincide as nearly as they appear to do upon this point; for no one who knows the state of alienist

medicine in this country can doubt that these two authors are destined to stand foremost among the leaders of the speciality in England. Were it merely the fact that they alone prove by their writings that they have made a serious study of the works of previous schools of psychology, it would be a sufficient ground for the expectation that their writings must largely shape the course of English thought on these subjects for many years to come. To them we may justly refer the numerous lawyers who are constantly carping at medico-psychologists for their supposed tendency to treat medico-legal matters exclusively from the narrow point of view of specialists desiring to bring everything under their own craft and mystery. Our legal critics, if they will study the only really living and growing medical philosophy of mental disease, will discover that it is not for want of a due acquaintance with the speculations of the metaphysicians and the arguments of the jurists, that the best modern medical writers are agreeing to insist that the *general* medical history of an individual must be the ultimate test of his legal responsibility.

If we pass from theoretical considerations to descriptions of the varieties of insanity as actually seen in practice, and the appropriate treatment for them, we find in Dr. Blandford's work a considerable advance over previous writings on the subject. His pictures of the various forms of mental disease are so clear and good that no reader can fail to be struck with their superiority to those given in ordinary manuals in the English language or (so far as our own reading extends) in any other. Certain portions of the work seem to us better done than others; and we might especially single out the chapters on General Paralysis, and on Acute Delirious Mania, for praise, on account of their exhaustive character. But the book is good throughout, and to the readers of the *Practitioner* it should have a special attraction, inasmuch as it always deals with questions of treatment in a careful and thorough manner. Not merely the use of particular medicines, but the much more important matters respecting food and management, are treated with a fulness and precision, and often with an originality, which gives a high character to the work. Let us add that the style of writing is vigorous and unaffected, and that the typography and general form of the book is all that could be desired for a manual needed for constant reference.

*Injuries and Diseases of the Knee-joint, and their Treatment by Amputation and Excision contrasted.* The Jacksonian Prize Essay for 1865. By WILLIAM PAUL SWAIN, F.R.C.S., Surgeon to the Royal Albert Hospital, Devonport. London: Churchill, 1870.

MR. SWAIN is well known, in various departments of surgery, as one of the most energetic and able of our younger, or we should say (alas!) middle-aged *confrères*. We find him here upon favourite ground, however, for we suspect that among all the objects of interest in surgery, to which he has turned his attention, the question of excision of joints has much the strongest hold upon his scientific affections. It is an interesting fact that this very subject of knee-joint excision was incidentally by far the strongest stimulus to the surgical career of several gentlemen who have since become very distinguished. The bone of contention which Sir W. Fergusson flung into the profession, when he reviewed the forgotten and discredited operation of excision of the knee-joint, was not only the cause of hot and wide-spread controversy, but it largely helped to raise up a school of young surgeons, animated with a strong enthusiasm for their art, and who have since done very considerable things. It is somewhat a melancholy reflection that King's College, that reared them all, has let the most distinguished of them drift off from her right and left, to carry their talents to places where they were better appreciated.

This volume on knee-joint diseases, and the comparative merits of their treatment by excision and amputation, is a good and workmanlike performance. The author had enjoyed the best opportunities for learning his subject thoroughly, having been a pupil and house-surgeon of Sir W. Fergusson, at King's College Hospital, where he was necessarily entrusted with much of the after-treatment of excision cases. He has repeatedly operated himself; and he has brought to the preparation of the treatise before us an amount of careful study of what has been done by other performers of knee-joint excision, which may almost be called exhaustive. What pleases us most is, that in estimating the comparative merits of excision and amputation, he shows himself by no means an exclusive bigot, though his educational prepossessions must have been strongly in favour of the former proceeding. He admits the over-sanguineness of some of the early advocates of excision. But, on the whole, he makes out a very strong case for the belief that a great saving, not only of limbs for the time, but of lives in the end, has been accomplished by the revival of excision of the knee: and he puts, even more strikingly than Price had done, the evidence which shows that there has been, at any rate in this country, a progressive diminu-

tion of the mortality after this operation as time has gone on: an improvement doubtless to be attributed partly to increased skill in operating and familiarity with the details of after-treatment, and partly to the fact that surgeons now reject many unsuitable cases which would at first have been submitted to excision. One fact has struck us very much, and we can hardly believe it to be the result of accident: we refer to the favourable character of the results obtained in excision in three western towns—Exeter, Plymouth, and Devonport—forty-three operations having been performed with only five deaths and four subsequent amputations. This is not so good as the results obtained by some single operations for a smaller number of cases; but it is remarkable as being spread over the experience of three hospitals (in different towns) and three or four different operators. A ratio of 11·6 per cent. is little more than half the general mortality of knee-joint excision as obtained from the 472 cases collected in this volume. We agree with Mr. Swain that it speaks well for the surgery of the West. And certainly, if his western *confrères* are all of them equally attentive with himself to those minute details, both of the operation itself and the even more important after-treatment, there is very good reason for thinking that the results they have obtained indicate, not an accidental good fortune, but a standard that should always be reached, and in future will probably be surpassed.

This book, which we warmly recommend to the profession, is enriched with admirable illustrative engravings, and with an extensive index of cases, many of them related in detail. A more complete monograph of any surgical subject, within moderate bulk, is not often written; and we hope that the author may soon have occasion to report to us, in a second edition, that the prospects of excision of the knee-joint continue to improve as experience widens and becomes more complete.

*Experiments on the Action of Red Bordeaux Wine (Claret) on the Human Body.* By E. A. PARKES, M.D., F.R.S., and Count CYPRIAN WOLLOWICZ, M.D.

DR. PARKES and Count Wollowicz have continued their interesting researches on alcohol by examining the effects of red Bordeaux wine; and in general terms we may say that the results obtained were the same as those observed in experimenting with plain spirit and with brandy. There is the same absence of effect upon nitrogen elimination, the same failure to reduce temperature, and the same increase of the heart's action. As before, too, there is the demonstration of a line of dosage at which narcotic phenomena began to be developed that were not produced by smaller quantities, and simultaneously with these we notice an

increase of the rapidity of the heart's action, and the appearance of a slight trace of elimination of alcohol in the urine and in the breath. The elimination by the breath was estimated in a new manner, the watery vapour being condensed by a freezing mixture: this process is evidently more delicate than that of simply breathing through the test liquid.

As regards the quantity of alcohol which proved *narcotic* to the subject of the experiments (a healthy soldier, the same as was the subject of the former series), two things are to be observed: first, that the man is a perfectly healthy and exceedingly temperate man, and has previously shown signs of a less than common toleration for alcohol; and, secondly, that the twenty ounces of Bordeaux (two ounces absolute alcohol) which *did* produce narcotic symptoms, were given him all at one meal. We note this last circumstance particularly, for it is very probable that had the quantity been given in two doses, representing, let us say, the quantity that a well-to-do Frenchman would habitually take with his *déjeuner* and his *dîner*, there would have been no narcotic effects at all. Upon the theory, which we personally hold, that alcohol is oxidised within the body, there is great probability that only a limited amount of alcohol can be so dealt with at once, and that any excess of it in the blood must, for the time, prove narcotic to the nervous system.

One interesting fact revealed by the new and more accurate mode of testing the breath was, that elimination by that channel was still going on to a certain extent two days after a narcotic dose had been taken. There was also evidence (though more doubtful) of an intermittent and more prolonged elimination by the skin. On the whole, however, there is no evidence in any of these researches of Parkes and Wollowicz to prove the elimination of any but trifling quantities of unchanged alcohol, either by skin, lungs, or kidneys, unless very powerfully narcotic doses have been taken; and they may be said to confirm, in all important respects, what has been observed in this direction by German and English observers.

*On the Kombi Arrow-Poison (Strophulus hispidus, D.C.) of the Manganja district of Africa.* By THOMAS R. FRASER, M.D., &c. (Edin. Phil. Transactions.)

DR. FRASER brings forward, in this paper, a new and interesting poison. The plant from which it is obtained is a creeper of the family of *Apocynaceæ*, and Dr. Fraser prepared a powerful alcoholic extract from the seeds. The results of experiments on animals showed that this extract (which contains a powerful active principle that the author has succeeded in isolating) exerts a powerful and peculiar action on the heart, which it

paralyses independently of any action through the cerebro-spinal axis or through the vagi. Besides this action, however, it also destroys the vital activity of the muscles in such a way that they are quickly in a state of true *rigor mortis*. The sensory and motor-spinal nerves, the abdominal and cervical sympathetics, and the muscular walls of the bladder, intestines, stomach, and uterus, are also paralysed at an early stage, but not till the heart has ceased to contract. The *lymph*-hearts of the frog go on contracting long after the blood-heart has stopped. The irritability of the blood-heart is completely exhausted by the poison.

*On the Action of Nitrite of Amyl on the Circulation.* By T. LANDER BRUNTON, M.D., F.R.S. (From the Journal of Anatomy and Physiology, Vol. V.)

WE noticed briefly, in a former number, these very interesting researches of Dr. Brunton. They afford the most complete demonstration (with the control of physical investigation of the blood pressure performed with the advice and assistance of Professor Ludwig) of the fact that nitrite of amyl produces its characteristic effects directly upon the walls of small arteries. It leaves open the question whether the muscular tissue, or the nerve ends, are the parts of the vascular wall directly affected. Upon one point, which Dr. Brunton leaves doubtful, there is now a good deal of evidence: viz., it appears probable that amyl *does* affect unstriated muscular fibres in other organs besides in the arterial walls.

*On Ailantus Excelsa, a new Indian Remedy.* By Mr. NARÁYAN DÁJÍ, G.G.M.C. (Pamphlet.) Bombay, 1870.

THIS pamphlet tells us of a probably valuable new medicinal agent of the class to which quassia belongs. From the bark of the *Ailantus excelsa*, an acid—ailantic acid—is obtained: it exists in the wood under the form of ailantate of lime. Ailantic acid (which contains nitrogen) is uncrystallizable, of waxy consistence, reddish brown colour, and is very hygroscopic: it seems difficult to keep for any time, and therefore will hardly be used in medicine, though it has been proved to be a very valuable remedy for various atonic conditions of the stomach and intestines, and has even proved serviceable in the early stages of cholera. The preparations of ailantus which will be used are: (1) decoction of the bark (four drachms to one pint), dose, one to two fluid ounces twice or thrice daily; (2), cold infusion of bark (two drachms to ten ounces), dose, same as last; (3), tincture of bark (one and a half ounces to one pint proof spirit),

dose, 3ss to 3ij; (4) extract of bark—dose, two to five grains, alone or with other tonics or alteratives.

*Observations on some of the more recent Methods of treating Wounds; and on Excision of the Knee-joint.* By EDWARD LUND, M.R.C.S., Lecturer on Anatomy and one of the Surgeons to the Manchester Royal Infirmary. (Pamphlet.) Manchester : Cornish.

THIS treatise scarcely deserves to be considered an important contribution to practical surgery; and yet it discusses the principles of the "antiseptic" method of treatment in a thoughtful manner, and gives some hints, in matters of detail, which may prove very useful to those who are striving to carry out the method of Liston, which seemed to promise so much, but is still so far from being satisfactorily established in scientific favour. Mr. Lund is a firm believer in the main idea of the antiseptic dressing, and he takes a great deal of pains to show various reasons which may have interfered with its success. The case of excision of the knee-joint which he records is certainly interesting in this point of view, and it is valuable especially from the candour with which the author points out certain blunders which he himself made; thereby causing serious interruption to what would have otherwise been a steady and uniform recovery without any suppuration at all. We must say that this narrative, among other things, does much to confirm the impression left on our mind by Mr. Swain's book (noticed above), of the great pains and minute care that are necessary for conducting the after-treatment of excision of the knee to a good termination. That, however, is no argument against the operation, but merely against ignorance and carelessness on the part of surgeons who may have to perform it.

*Delirium Tremens in Surgical Cases.* By J. CROFT, F.R.C.S. Assistant-Surgeon to St. Thomas's Hospital. (Pamphlet.)

THIS is a painstaking, though rather heavy treatise; and the author, though recording some really interesting facts, seems to us to misunderstand one or two matters which it is of some consequence to understand clearly.

The first point which requires notice is the assertion of Mr. Croft's opinion, in agreement with Dr. Cumming, that delirium tremens is caused, not by the direct action of alcohol in the system, but by the sudden withdrawal of it. This, he thinks, is shown by the experience (certainly most interesting) of the surgical wards at St. Thomas's. He states that it is common for intemperate persons to be brought in, suffering from an accident

—e.g. a compound fracture; that they shall be then and there put on a diet entirely devoid of alcohol, and that after a few hours, or a day or two, they shall break out in delirium tremens: he thinks this is only to be explained on the supposition that the withdrawal of the alcohol was the cause of the delirium. So far as we understand him, he does not take the old metaphysical view, of stimulus and recoil, but thinks that the withdrawal of the alcohol supply for a time permits the brain to enter on an upward course towards recovery from its poisonous action, and that one stage in this upward progress is delirium. In the reaction from the combined depression of previous alcoholism and of surgical shock, there is hyperactivity of changes in nerve-cells, &c., and consequent hyperactive brain-circulation and insomnia. For our own part, we believe this theory to be unnecessary and incorrect. In the instance of *surgical delirium tremens*, we believe that the only new factor which has been introduced into the case is the *shock of the accident or operation*; this, acting centripetally upon nervous centres whose vital condition has been steadily lowered by months or years of systematic alcoholic poisoning, gradually increases the instability of these centres till the point of delirium is reached. At the same time we would beg to intimate our opinion that it is very bad surgical practice indeed to withdraw his accustomed supply of alcohol from an intemperate man who has sustained a severe accident or surgical operation: the reason of this is, that without it he will be starved, as he will not be able to take common food; and starvation is a powerful helper of the delirious tendency. And we would notice, here, that Mr. Croft seems scarcely alive to the necessity of feeding a patient—*per fas aut nefas*—who is in a state of surgical nervous shock, if you would avoid or restrain delirium.

We are very glad to see that Mr. Croft agrees with the doctrine, which we most firmly hold, that opium is rarely if ever needed in delirium tremens. His experience, also, of the usefulness of the bromides is interesting; but in regard to two other drugs he disappoints us. The greatest omission is that he says nothing of chloral hydrate, a medicine which plays so important a part, nowadays, in the treatment of delirium tremens, that its discovery may be said to have inaugurated a new era therein. Chloral hydrate need not be given to decided narcotism (a state which is most undesirable in delirium tremens, as it is impossible to say what the issue of it will be), but it *is* capable, in many cases, of producing simple sleep, and that at an early stage when scarcely any other drug will have the slightest efficacy in that direction. Even bromides will not do so, save in comparatively rare cases, at so early a period. Another remedy which we are rather surprised to see unmentioned by Mr. Croft is Indian



hemp, and especially that combination of hemp with bromide of potassium which Dr. Clouston has recently praised in his interesting Fothergillian Essay for 1870. But by far his most serious omission is that already mentioned: that he does not dwell on the necessity for immediate and copious supplies of nutriment, especially *hot* soup (by the rectum if the stomach will not stand them), to a patient suffering from shock and threatening delirium. His paper, however, is valuable, from the large amount of material which he collects, and especially from its cogent evidence to the non-necessity of narcotising the patients with opium.

## Clinic of the Month.

**Oakum and Carbolic Acid as an Antiseptic Dressing.** — Mr. Lister states that having read reports from various quarters of the efficacy of oakum, he has lately put it to the test with granulatory sores, where, if it should happen to fail, no mischief would result; and he has found it to more than answer his expectations. The reason for its superiority over oily cloths is, he thinks, readily intelligible. Each fibre of the oakum is imbued with an insoluble vehicle of the antiseptic, so that the discharge in passing among the fibres cannot wash out the agent, any more than it can when flowing beneath the lac plaster to a narrow strip of which an individual oakum fibre is fairly comparable. In some points of view oakum was even superior to the lac plaster. When the latter is left for several days together, the discharge, even though small in amount, soaking into the absorbing cloths, loses the carbolic acid it had received from the plaster, and putrefying from day to day assumes an acrid character, and sometimes produces troublesome irritation of the skin. This is of course avoided by the oakum. Again, the lac plaster being quite impermeable to watery fluid, keeps the skin beneath moist, and in fact covered with a weak watery solution of carbolic acid, which perhaps insinuates itself more or less beneath the "protecting," and maintains a slight stimulating influence upon the parts beneath it. But oakum, draining away the discharge as fast as it is formed, avoids this source of disturbance. The result is, that if a granulatory sore be thoroughly washed with an antiseptic lotion, and covered with "protecting" and a well-overlapping mass of oakum secured with a bandage, a dressing is provided which nearly approaches the idea Mr. Lister has long had in view. Mr. Lister's "protecting" above mentioned is made by varnishing oiled silk on both surfaces with copal varnish, which renders it considerably less permeable to carbolic acid, and when it is brushed over with a mixture of starch and dextrine to give it a fibre of material soluble in water, so that it becomes uniformly moistened when dipped in the antiseptic solution. It may be obtained of the Apothecaries' Society, Virginia Street, Glasgow. When it is not at hand, common oiled silk may be used as a substitute for it, if smeared with an oily solution of carbolic acid and used in two layers to make up

for its inferior efficiency. (See *British Medical Journal*, January 14, 1871.)

**Perchloride of Iron in Paralysis of the Bladder.**—Mr. C. Watts Parkinson reports a case of retention of urine in a man of 74 years of age who had been subject to similar attacks for several years, and which had been relieved by warm baths, &c., without the use of the catheter. On the present occasion the suffering was considerable, and the ordinary means failed, but a large quantity of urine was drawn off by a prostatic catheter. During the next few days the urine was drawn off daily, but the urethra began to be irritable; there was stilloidism and great constipation. After the lapse of a week the old man fell into a low typhoid state, with dry brown tongue and feeble pulse, whilst hæmorrhage followed each introduction of the instrument; the urine was loaded with phosphates, mucus, &c.; the bladder did not contract in the slightest degree. Under these circumstances, as the water had been drawn off, Mr. Parkinson injected, morning and evening, six ounces of a weak solution of tincture of iron, which was retained in the bladder for about half a minute. The next day there was slight contraction of the bladder, and on the following day the bladder contracted well on the instrument after the injection; he passed small quantities of urine occasionally during the day, voluntarily, and there was no overflow. From this time the patient continued to improve, and was able to command his water better than for some time previous to the attack. The favourable result appears now to have been fairly attributable to the perchloride of iron injected. (See *Medical Times and Gazette*, December 24, 1870.)

**Skin-grafting in the Treatment of Ulceration.**—Mr. Nicholls, of Chelmsford, states that soon after the publication of Mr. G. Pollock's case of skin-grafting at St. George's Hospital, he extensively grafted on his plan a large old varicose ulcer on the leg of an elderly woman, with rapid and perfect success. On seeing the leg some weeks after, he was struck by the general appearance of the limb, the new skin differing so much from that which is usually seen in recently healed ulcers, being softer, whiter, and much healthier than the thin, stretched, parchment-like skin produced by healing from the margins. He subjoins a case in which an accident was followed by bad symptoms, loss of the whole of the flap of the palen, and much integument on the dorsum and hand. On proposing to graft some new skin, the patient strongly objected to undergo any further pain. Mr. Nicholls then thought of the plan which has been successfully practised at the Aberdeen Infirmary by Dr. Fiddes. He shaved off a quantity of epidermis, free from hair, from his sound arm, and freely dusted it over the granulating surfaces. In the course

of a fortnight all the wounds were covered with a firm, healthy skin, and the new skin showed no disposition to contract at all, though no extension was employed. (See *Lancet*, January 7, 1871.)

### **Permanganate of Potash in the Treatment of Gonorrhœa.**

—A correspondent of the *Lancet* states that in a case of obstinate gleet which had resisted various remedies for two months, he was induced to try the permanganate of potash in the proportion of four grains to the ounce. After having used it three times the patient came to him, saying it caused such great pain that he could not use it. The discharge was now considerably increased and the glans penis and prepuce very much swollen and hot. He then reduced the permanganate to half the strength (two grains to the ounce), and continued it for four more injections, when he could get the patient to use it no longer on account of the great pain it caused. In an article by Dr. Warden, contained in the *Lancet* of December 3 (see *Practitioner* "Clinic" for January), he states that this plan of treatment "gives rise to no pain or inconvenience." In this case it greatly aggravated the discharge, besides causing the glans and prepuce to swell and become very tender. (*Ibid.*)

' Mr. Miall, of Bedford, in the same number of the same journal, remarks that he has used the permanganate of potash for the last four years as an injection in gonorrhœa. Though not an unfailing remedy, he has found it to be so far successful that he continues to use it among other modes of treatment. In the acute stages, if injections are applicable, it is, he thinks, inferior to acetate of lead; in the third or chronic stage it will often cause a speedy cure, and is one of the best injections. It has often in his hands cured long-standing cases when "everything has been tried." In gleet, he thinks it will be frequently be found of service. His prescription has generally been a drachm of Condyl's solution mixed with a pint of water.

**Enuresis and its Treatment by a New Remedy.**—Dr. J. Barclay, of Aberdeen, contributes an important paper to the *Medical Times and Gazette* of the 17th December, on this affection, *i.e.* incontinence of urine, in which, after alluding to the generally recognized causes, he remarks: As regards the treatment, there is even more variety here than in the causes, and this is sure evidence that most of the remedies and plans of treatment proposed have given small satisfaction. These may be described under four heads—the "constitutional" remedies, or those calculated to operate on the disease through the system, by correcting some ascertained fault therein; the "moral" treatment; the different "mechanical" means which have been at

various times brought forward; and the very numerous class of "specifics."

The "constitutional" embrace means to correct over-acidity or over-alkalinity of the urine, if either of these states exist; attention to the diet and regimen, more especially to the quantity of drink taken at any particular time of the day or evening; tonics of various kinds, as tincture of iron, strychnine, and cod-liver oil; anti-gouty remedies, if an evidence of this disease is observed; the removal of ascarides from the rectum; cold sponging to the back and loins, and hot baths at bedtime.

The "moral" treatment includes attempts to correct bad habits, by insisting on the patient emptying his bladder thoroughly before going to bed, rising two or three times during the night, and observing regular times of micturition during the day. And then we have, by some injudicious people, a plan recommended which may be classed either under the "moral" or "mechanical" head—the plan of castigation. This is a method of treatment only to be mentioned to be condemned.

The "mechanical" means proposed comprehend Sir Dominic Corrigan's plug of collodion, which he recommends to be applied to the orifice of the prepuce, thereby preventing the egress of the urine until the plug is removed, and which, he says, is usually sufficient in about a fortnight to effect a cure. Next we have Pluviez's compressing pads; Trousseau's urethral truss applied to the perineum; the application of an elastic band round the penis; the tying a reel on the back, so as to compel the patient to lie on either side; circumcision where the prepuce is too long; the mechanical dilatation proposed and practised by Dr. Braxton Hicks, by the injection of warm water into the bladder, when the viscus is contracted; and the practice recommended by some person of passing a small silver catheter every evening.

The "specific" remedies in which most confidence is placed are—belladonna and its active agent atropia; bromide of potassium, alone and with syrup of poppies; cantharides; benzoic acid, when the urine is high-coloured and of strong odour; zinc; camphor, and secale cornutum. Besides these we have a host of others, as—capulin; large doses of nitrate of potass; the inunction of morphia and veratria ointment into the perineum; the application of astringents, such as rhatany, tannin, and iron, to the sphincter vesicæ, recommended by Oppolzer; drop doses of tincture of iodine every two hours, lately recommended by Dr. Schmidt, which it seems did good as long as the medicine was continued, but which, when omitted, left no permanent benefit; blisters to the sacrum; nitrate of silver to the prostatic urethra and the urethral orifice. Dr. Barclay has tried several of the above remedies, and, before he stumbled on the syrup of the iodide of iron, found atropia or belladonna by far the most

certain and trustworthy. Tincture of iron is much employed, but after frequent and persevering trials with it, he was always disappointed. During the last two years and a half, twenty cases of incontinence of urine have been treated by him: the medicine invariably prescribed has been the syrup of the iodide of iron alone, and so far as he knows there has been no failure. He has notes of all the cases, but only eleven in a completed state, since the other nine, who came from a distance, did not return to say what was the result. The probability is that they were cured, otherwise they would not have been got rid of so easily. Uncured cases are those which return upon our hands. At all events, the eleven who did report themselves, or were continually under observation, were all cured, the improvement in several of the cases following so closely on the administration of the remedy as to leave no doubt but that the good effect was due to the syrup. Dr. Barclay mentions that Dr. Manson, of Banff, and Dr. Smith, of Kinnairdy, have both found the medicine equally satisfactory. Dr. Smith says that he tried it only a fortnight ago, in a boy who for a long time had been a sad martyr to both diurnal and nocturnal incontinence, and who had resisted all other remedies, but, upon giving him the iodide, in two or three days he was all but well.

**Treatment of Typhus by Cold Bathing.**—Dr. Fehrsen, dating from Dresden, states that he has recently visited the military lazarettos, and seen the numerous cases of typhus brought from the seat of war in France. The type now raging among the French and Prussian troops is the Typhus abdominalis of the Germans—our typhoid or intestinal fever—a type of fever much milder than our “endemic Scotch or Irish petechial typhus,” less pronounced in its invasion, and much less contagious. The fever cases are indiscriminately mixed with the wounded and those suffering from dysentery. Many of these were removed to Dresden, and it was determined to try the effects of cold bathing. The mode adopted was, that as soon as possible after admission into the hospital the temperature of the patient was ascertained—in women from the axilla, in men per rectum. If the thermometer showed 104° Fahr., he or she was put for fifteen minutes in a bath of 59° Fahr. up to the neck; in cases of much headache or delirium an additional quantity of cold water was poured over the head, or cold compresses were applied. A measurement three-quarters of an hour afterwards uniformly showed a fall of two or three degrees. The cold bath is repeated during the first week from four to six times a day, or as often as the temperature attains 102° or 103° Fahr., experience having shown that the rapid cooling down of the febrile heat to a normal temperature is a powerful means of mitigating the

symptoms, shortening the duration of the disease, and favouring an early convalescence, besides obviating the necessity of prolonged bathing at a later period of the disease. The most striking benefits resulting from this cold bathing are—first, that the delirium is generally either mild or easily subdued; secondly, an earlier return of sleep; thirdly, a total absence of bed-sores; fourthly, a less prostrate state of the system when the patient leaves the hospital. Women, being more manageable, bathe more willingly than men. Many cry or give way to moaning for a few minutes, until by a little courage and lying quite still the body gets accustomed to the cold. If the water, however, be in any way disturbed, immediately they commence moaning and crying, showing probably that the stratum of water in immediate contact with the body must have acquired a higher temperature from the evolution of the febrile heat. After the first bath the sick show less objection to its repetition, and some even like it. Dr. Fehrsen saw about 200 cases thus treated. Nothing contraindicates the use of the bath except very feeble action of the heart, hæmorrhages, or perforation of the bowels, nor is a little bronchitis considered as an obstacle. The lightest food, with very little claret, is all that is given. Quinine is administered for the express purpose of lowering the febrile heat, sixteen grains being given in two divided doses in the evening. The statistics of the Stadt-Krankenhaus at the present time contrast most favourably with those of a few years ago, when the mortality averaged  $11\frac{1}{2}$  per cent., as at present it does not exceed 4 per cent. Dr. Fehrsen thinks the plan might even be tried with advantage in cases of genuine typhus. (See *Lancet*, Dec. 31, 1870.)

## Extracts from British and Foreign Journals.

**Treatment of Phthisis.**—Dr. Stiles Kennedy, of Newark, Delaware, comments upon a paper read before the Cincinnati Academy of Medicine, by Dr. Logan, in which the latter gentleman proposed the following plan of treatment for phthisis. He gives thirty or forty drops of tincture of the chloride of iron in a wine-glassful of water half an hour before eating, and the same quantity of dilute nitric acid of the Pharmacopœia in a wine-glassful of water just after eating; the application of tincture of iodine two or three times a day as a counter-irritant, extract of hyoscyamus at night to promote sleep if necessary, and syrup. lactucarii or syrup of the *Virginia plum* as expectorants. Under this treatment, of fourteen cases eight recovered, two are recovering; one of them had infiltrated tubercle diffused throughout the entire lobe of the left lung, cavernous respiration and pectoriloquy at the apex of the left lung, whilst the other dulness and other signs of deposit in the apices of both lungs. These cases had been under treatment seven and four months respectively. Dr. Kennedy states that he adopted a very similar plan of treatment independently at about the same time and with equally good results. In an ordinary case he gives from twenty-five to thirty drops of tincture of chloride of iron in one tablespoonful of the liquor ammoniæ acetates, previously acidulated by the addition of a few drops of acetic acid half an hour before meals, and from ten to fifteen drops of dilute nitric acid in the same quantity of water every two, three, or four hours, according to the urgency of the cough. As a local application to the chest, where there is much internal irritation, he uses oil of turpentine on cotton cloth, and when the worst of the irritation has subsided, he paints the chest with tincture of iodine daily. He acknowledges himself indebted to Dr. Basham. Dr. Kennedy considers that the dilute muriatic acid may replace the nitric in the above mode of treatment in many cases with advantage. In the coughs usually found hanging about phthisical families, the muriatic acid proves more beneficial, while in acquired phthisis, with a tendency to diarrhœa, the nitric acid will be of more service; but the state of the digestive organs has an important bearing upon the point. In cases of phthisis in which



pains in the limbs are experienced, and which Dr. Kennedy thinks are due partly to an impoverished blood causing imperfect nutrition of the nerves, and partly to absence of the cushion of fat naturally present over the body being absorbed, he ordered, with great benefit, two grains of quinine every third hour, missing one during the night if sleep was obtained. Arsenic and iron were subsequently added, and the patient lived for a year. He now uses iodoform two grains, and iron, instead of the arsenic and iron. (*Medical and Surgical Reporter*, No. 711.)

**The Treatment of Typhoid Fever.**—Dr. Hall, of Owensborough, Kentucky, after referring to the tendency to recover observable in this disease, which has led to an endless variety of drugs being recommended, whilst in mild cases little medication is necessary, states that he begins the treatment by giving a purgative dose of calomel or blue pill, or, if mercurials are contra-indicated, of castor-oil and turpentine; and after the bowels have been moved fifteen grains of chlorate of potash dissolved in half a glass of cold water, every three hours. This salt he believes to act as a diuretic and diaphoretic, besides having a salutary action on the blood and on the irritable or inflamed mucous membrane of the intestinal canals so common in this disease. To reduce the temperature and control the febrile excitement, he has found no remedy equal to water, applied either cold or warm as may be most agreeable to the patient. He applies the water by means of a sponge to the entire surface of the body every two or three hours, or by a bath to be repeated as often as necessity may require. If diarrhoea be excessive, he attempts to control it by the use of acetate of lead and opium. In the more severe cases he gives veratrum viride or digitalis to control the circulation and reduce the pulse from 140 to 70 or 80, and the temperature in a proportionate degree. He uses the veratrum in tincture or fluid extract, and the digitalis in substance or infusion; fifteen or twenty grains of the latter may be given in the twenty-four hours if necessary without fear of injury. He has given the sulphate of opium in ten-grain doses every four hours with marked good effects in the early stages, free perspiration following its use, with decided reduction of the pulse and of the temperature of the body. In his town a combination of typhoid fever and malarial disease is common; in these cases quinine and opium with an occasional dose of blue pill proved most efficacious. In the second stage of the disease, dilute muriatic acid in fifteen-drop doses, with the use of chlorate of potash, was serviceable. He has only occasionally found it requisite to present wine or brandy, and thinks their indiscriminate use at this period very hazardous. To procure sleep, where defective.

he prescribes opium. In the third stage he employs tonics and stimulants. For tympanitis he relies exclusively on oil of turpentine in twenty-drop doses, with spirits of lavender every three hours. Diarrhoea at this stage he treats with nitrate of silver and opium. Hæmorrhage from the bowels may be arrested with acetate of lead and opium, and injections of ten grains of acetate of lead in solution. Delirium may be controlled by morphia and brandy, or perhaps with hydrate of chloral. Epistaxis he has generally stopped by injecting a solution of perchloride of iron into the nares; but if this fails, plugging must be resorted to. Bronchitis and pneumonia are to be treated with counter-irritation by means of turpentine stupes, sinapisms, flying blisters, or tincture of iodine freely applied to the chest two or three times a day. The general rules of hygiene as regards ventilation, &c., should be strictly attended to. The patient's drink should consist of cold water, lemonade, &c., and the diet in the early stage of rice-water, toast-water, the juices of fruits, butter-milk, &c., whilst in the second and third stages it should consist of milk, eggs, beef-tea, soups, &c. (*The American Practitioner*, Dec. 1870.)

**The Administration of Hydrochlorate of Quinine in Hooping-Cough.**—Dr. Breidenbach, in a short paper that has been kindly forwarded to us by Professor Binz, remarks that the frequent failure of all forms of treatment in this disease leads him to call the attention of practitioners to a remedy, which, in a violent though not widely-spread epidemic that fell under his notice last year (1870), proved of extreme service. This remedy is hydrochlorate of quinine. In all pure cases (he has had, he states, no opportunity of observing complications) its effects were really surprising, as soon as he had from precise observations determined the exact dosage; and in this he thinks lies a great part of the success he has obtained. The doses should be relatively large, larger even than those recommended by Professor Binz. The amount administered in the cases under his observation, the age of the subjects varying from three weeks to eight years, and the violence of the attack also being very different in different cases, varied from  $1\frac{1}{2}$  to  $15\frac{1}{2}$  grains per diem. No other means than the quinine were employed, and some of the children, on account of poverty, were freely exposed to the injurious influences of the weather. There appear to be no contra-indications to its use, and no toxic influences were observed. The action of the drug may be regarded as prompt. In the most serious cases, after the use of the remedy for forty-eight hours, the frequency and violence of the attacks began to diminish. To prevent relapses he continued the use of the hydrochlorate for some time in smaller doses.

**The Physiological Action of Baths containing Carbonic Acid.**—Dr. Basch, of Marienbad, and M. Dietl have been engaged in a series of researches with a view of ascertaining the nature of the action of baths containing carbonic acid; all bathers stating that they experienced a more or less intense feeling of warmth. The first question that suggested itself was, whether this sensation of heat proceeded from an increased generation of heat in the body itself; but the instruments at their disposal were not sensitive enough to show any, if indeed there were any, material difference from the results obtained by other observers in ordinary baths. They found that the effect of the acid was to induce redness of the skin, with which various modifications of the sensibility were associated. The water they experimented with was that of the Ferdinand spring at Marienbad, which contained about forty-eight cubic inches of carbonic acid gas to the pint. The usual temperature of the bath was 26° R. In about ten minutes a sensation of warmth began to be perceived in the perinæum and scrotum, which extended over the legs, the hands, fore-arms, and chest. It was least perceptible upon the back. The hyperæmia of the skin was very perceptible. A slight pricking sensation was perceived, and the tension of the skin appeared to be increased, these sensations becoming in some instances almost painful. The tactile sensibility of the skin was decidedly increased. Thus, on the back of the hand two objects were perceived at a distance of 26·65 min. apart; whereas after the bath they were perceived at a distance of only 20·6 min. In another case the distance was 35·3 min. on the back of the foot and before the bath, and 21 min. after. Such baths, therefore, seem to promise well for cases of partial paralysis of the sensory nerves, which they would thus call into action. (*Braun and Duchek's Medizinische Jahrbücher*, Band xx. 1870, p. 1.)

**The Treatment of Internal Strangulation of the Bowel (Ileus Volvulus).**—M. Tillaux, of the Hôpital St. Antoine, Paris, recognizes two forms of internal strangulation, the true and the false: the former arising from a physical cause, the latter from a dynamic cause; or, in other words, the former being produced by a mechanical obstacle to the passage of the contents of the intestine, the latter by a contraction or a paralysis of the coats of the intestine themselves. In the present essay he speaks only of the false variety, and shows that one of the most frequent causes of this state is acute peritonitis, either of a primary nature or consecutive upon a perforation of the intestine. Is it possible, he asks, to distinguish between these last two? He gives a series of cases where operations have been undertaken by distinguished surgeons, in which the peritoneal cavity was opened and yet no strangulation discovered, peri-

tonitis alone being present; whilst in other cases internal strangulation has been judged to be present when the real disease was a calculus impacted in the biliary duct. Both in primary peritonitis and in that resulting from perforation the pain occurs suddenly, but its characters are not identical in the two cases. In strangulation the pain is spontaneous and but little increased by palpation or pressure of the abdomen, whilst in peritonitis it is excessive. Vomiting occurs at the outset in both cases: but in peritonitis it rarely becomes faecal; in strangulation it may be bilious at first, but rapidly becomes faecal. Constipation is obstinate and complete in internal strangulation, but in acute peritonitis some evacuations usually occur in response to the purgatives that are often given originally. The pulse is frequent and very small in peritonitis, even from the beginning; but these characters are prominent only in the later stages of strangulation. The expression of the face is anxious and materially altered at an early stage of peritonitis; but in strangulation the expression of the face, though altered, yet presents a character that is difficult to express in words and is best caught at the bedside of the patient. The belly is tympanitic in both cases, but chiefly in peritonitis. When a true and complete internal strangulation occurs, the surgeon has two indications to fulfil: to remove the constriction and to give a new point of discharge for the faeces. The first is accomplished by the operation of gastrotomy, the arguments for the performance of which are materially supported by the modern practice of ovariectomy, and M. Besnier, who has paid much attention to the operation, is strongly in favour of it. M. Tillaux, however, objects to it, on the grounds, first of the extreme difficulty of discovering the seat of constriction, and, secondly, of the inflamed condition of the intestines. The second indication is fulfilled by the operation of enterotomy, as suggested by Nélaton, who, resting on the fact that it is the small intestine that usually undergoes strangulation, makes a small opening in the right iliac region, seizes, draws forth, and opens the first loop of intestine that presents itself, and thus gives issue to the faecal matter. M. Tillaux maintains the superiority either of this plan or that of M. Lavgier, which consists in stabbing the intestine with a trocar, as the best and most appropriate treatment. (*Bulletin général de Thérapeutique*, liv. vii. 1870.)

### The Introduction of Iodine by means of Electricity.

—M. Brückner has investigated the resistance that the uninjured skin offers to the introduction of iodine when applied by the electro-therapeutic method, the subjects of his experiments being himself and a patient. The two electrodes were applied opposite to each other on the flexor and exterior sides of the

fore-arm, and a very strong current transmitted through the arm, after tincture of iodine had either been painted on the skin, or a compress wetted with it had been applied beneath one or other of the electrodes. Iodine and iodide of potassium entered into the cutis at the cathode, but did not in all probability penetrate much deeper, and a slight inflammation occurred, which however was subsequently shown to be due to the action, not of the iodine, but of the electric current alone. No iodine penetrated the skin at the anode, although he has not satisfactorily ascertained whether iodine penetrates into the deeper tissues or not, when applied by means of electricity. He recommends that mode of applying it, on account of the slightness of the inflammatory reaction by which it is accompanied. (*Deutsche Klinik*, 1870, No. 40.)

**Treatment of Chronic Purulent Inflammation of the Tympanum.**—Dr. Lucæ finds that the majority of these cases are accompanied by granulations, not only in the middle ear, but along the Eustachian tube and in the pharynx, which keep up the inflammation in the ear. He directs treatment more especially to the Eustachian tube, and has seen the best results from the insufflation of dry powders through the catheter into the tube. For this purpose he recommends muriate of ammonia, sulphate of zinc, alum, acetate of lead, and sulphate of copper. The addition of a small amount of camphor to any of these, he thinks is of advantage. The powdered sulphate of copper is the most valuable in granular pharyngitis. The advantage of the powder over strong solutions is, that we get the greatest action in the tube when it is needed, without the risk of inflammation of the tympanum from the unexpected entrance of considerable quantities of fluid. For the granulations in the tympanum, sulphate of copper, in substance or solution (from two to five grains to the ounce), is highly recommended. One cause of the frequent failure to cure in these cases is the insufficient or imperfect application of the astringent instillations. To remedy this, Lucæ uses what he calls a prolonged ear-bath, by means of which he keeps the solutions applied to the desired parts for any length of time without interfering with the occupation of the patient. A medium-sized glass tube is bent at a right angle, with a long arm about one inch in length, and a short arm about half an inch in length. The long arm is covered by rubber tubing and inserted tightly in the meatus into the shorter arm, which stands upright; the solution is instilled drop by drop till the tube is nearly full. The patient is now able to move about, and the solution can be thus retained as long as desired. Previous to these applications the ear is to be thoroughly cleansed by the double current of Plat, which consists of an L-shaped tube, one

end of which is to be covered with rubber and inserted air-tight into the meatus externus. Into this large tube a small straight tube is inserted throughout its length. The water from a douche entering the end of the smaller tube fills the meatus, circulates around this, and passes out through the larger tube. For the granulations in the tympanum, sulphate of copper, in substance or solution (from two to five grains to the ounce), is highly recommended by Lucæ. (See *Monatschrift f. Ohrenheilk*, No. 4, 1870; *Berliner Klinische Wochens.* No. 6, 1870; and abstract of both in *Transactions of the American Otological Society*.)

**Treatment of Scarlet Fever.**—Dr. Stiles Kennedy, of Newark, Delaware, advances some novel views respecting this disease, in a recent number of the *Medical and Surgical Reporter*. In the first place, he maintains that scarlet fever is not contagious, on the grounds, first, that after the administration of belladonna parents having faith in it allow their children to go where they please, and that yet they do not take the disease. Secondly, it is not disseminated like a contagious disease—in proof of which he gives cases where it attacked several children consecutively in different parts of his town, who he ascertained had no communication with each other, and who did not constitute *foci* for its spread. Thirdly, he asks, why is it that physicians do not spread it through whole communities? Fourthly, it cannot be governed or controlled; it holds no amenance to sanitary or quarantine law, as contagions do; the most scrupulous cleanliness and ventilation have no more control over it than over diseases in general. If cases occur coincidently or consecutively in the same or adjoining families, he thinks it to be simply owing to the fact that they have been exposed to the same morbid influences. In the second place, he maintains that the mortality of scarlet fever is not really greater than that of other diseases, though the death list from this cause is swelled by various affections, occurring long after the primary attack, and attributed to it, whilst the greater number of the cases occurring are ignored. In regard to treatment, he strongly recommends baths, if the temperature of the skin be high, at 60°, but if strongly objected to as too cool, at any temperature below 95°.

**Treatment of Diphtheria.**—In an article on Blood Poisoning, in the *Australian Medical Journal*, Dr. Clutterbuck, of Mount Egerton, reviews the various plans of treatment adopted in the colony, and states his own. Mr. Wilkins applies glycerined tannic acid, and the iodide of potassium with sodium as pigments. Some of the Melbourne hospital practitioners apply in the same manner nitrate of silver and hydrochloric acid. Dr. Clutterbuck, believing that the essential features of diphtheria are inflammatory in their nature, proposes to prevent structural

derangement and its more alarming sequelæ—ulceration of the tonsils and adjacent parts, the formation of the pseudo-membranous substance, and the extension of the disease to the air tubes—by the free application of leeches to the angles of the jaws, the administration of purgatives by the mouth, and of turpentine enemata, blistering the upper part of the chest. The inhalation of the steam of hot water apparently facilitates the expulsion of the exudation from the throat when it has acquired its characteristic ropy appearance. The solutio aluminis usti, applied by means of the douche instrument, he has found a very serviceable adjunct, occasionally conjoined with tinctura capsici, a drachm to half a pint of water. The gargling of the throat in the usual method seems to be objectionable, because greater spasmodic action of the muscular fibres in the parts implicated is engendered. In three instances he has excised the tonsils with instantaneous relief to most urgent and distressing symptoms; the swelling of these parts being so great at times as to threaten suffocation. Occasionally the disease has been successfully combated by calomel, with opium, given at intervals of every two hours, until signs of the absorption of the mineral became apparent. (*Australian Medical Journal*, October 1870.)

**Iodide of Potassium in the Treatment of Nephritis Parenchymatosa.**—In order to check the growth of connective tissue around the Malpighian bodies in the second stage of Bright's disease, and thus to arrest the albuminuria, Dr. Caspari experimented with iodide of potassium on five patients, in three of whom he obtained favourable results. He states that he has also received satisfactory reports from Prof. Crequi, of Brussels, and from Dr. Bandon and Prof. Semmala, of Naples, who have adopted this mode of treatment. The plan pursued by Prof. Crequi consists in administering a daily dose of from 30 to 45 grains, and increasing this by 15 grains per diem till it reaches the amount of from 100 to 225 grains. Still larger doses may be administered, providing the system does not lose its tolerance for the drug, in which case the quantities given must be diminished. With the larger doses it is advisable to add opium or nitrate of bismuth. In cases where there is much debility, iodide of iron may be added to the iodide of potassium, or a little quinine may be given. (*Deutsche Klinik*, 1870, No. 27.)

**Treatment of Epilepsy by the Hypodermic Injection of Atropia.**—M. G. Brocca records two cases treated in this manner: one, a boy aged six, who was attacked with epilepsy in consequence of a fright. He had been treated with bromide of potassium, quinine, valerianate of zinc, and valerianate of quinine, and leeches to the neck, without benefit. The injection of sulphate

of atropia, in doses rising from one-half to five milligrammes, was now commenced; but the patient became progressively worse during the first thirteen days, the attacks ultimately numbering thirty per diem, and the mental powers becoming more enfeebled. On the fourteenth the first symptoms of atropia poisoning were exhibited; nevertheless the use of the atropia, though in diminished doses (two milligrammes), was steadily continued. The symptoms at once began to improve, the attacks became more and more rare, and less and less violent, till after eighteen days they entirely ceased. The boy soon after left the hospital, and has remained since perfectly well. Altogether twenty injections were made; on four days two were given; the whole amount of atropia used amounted to 65 milligrammes (about one grain); the injections were usually made in the thigh and arm. The second case was that of a girl of 22 years of age, in whom the attacks had commenced at the age of 20, and had become more and more frequent and violent. As precursors of the attack she experienced violent pains in the ring and little fingers, which extended up the arm and shoulder to the neck; then a feeling of suffocation was experienced, followed by the convulsions. Careful examination of the little finger showed a small cicatrix, consequent on a squeeze, two months after receiving which the attacks began. Bromide of potassium internally, the extract of belladonna externally, were equally useless. Laying the hand in ice, when the aura commenced, arrested the attack, but was too inconvenient to be carried out at home. A solution of sulphate of atropia was made, containing one part in 250 of water, and about 13 drops were injected. The severe attacks ceased after the fifth injection, and the aura without the fits after the tenth. The injections were, however, continued for the space of six weeks, when, having had no return of them, she was considered to be cured. A relapse, however, occurred, in consequence of a domestic affliction; but from this she soon rallied. The author recommends that small doses should be administered in the first instance, and that the quantity should never exceed the 14th of a grain for one injection. (*Medizin-Chirurg. Rundschau. Jahrgang. xi. p. 35.*

**Treatment of Hæmatemesis by Transfusion.**—Dr. Carl Michel reports an interesting case of hæmatemesis in which transfusion was successfully employed. The patient was 63 years of age, robust, but had suffered for a few weeks previously from loss of appetite and some eructations. On the 15th of May he became listless and unable to do his work, and went to bed and took a dose of salts, and for three or four days suffered from diarrhoea. The motions were black. He became very weak, cold sweats appearing on his face. On the 19th M. Michel



saw him. He was lying on his back very debilitated and anæmic, with strong abdominal pulsation, and pain on pressure of the abdomen. Whilst examining him the pupil contracted, several drops appeared on the forehead, and the whole body began to tremble. This lasted for a minute. On placing him upon a night stool, three black lumps the size of a hen's egg were passed with a pint of clear blood. The patient then fainted. The diagnosis of the case was then made as being either a rupture of a degenerated athoromatous artery or as chronic ulcer of the stomach. He was ordered ice internally and externally, acetate of lead and opium, and perfect rest. On the following day there was improvement, and in exchange for the lead and opium, diluted sulphuric acid was ordered in small doses every two hours. On the 21st vomiting of blood occurred, and all the symptoms became worse. Infusion of digitalis and nitrate of potash was ordered, and subsequently, as no improvement followed, tinct. ferri acetat. The diet was milk and cold beef-tea. On the 22nd he was insensible for three-quarters of an hour, and all his symptoms betokened the near approach of death. Transfusion was determined upon, and performed on the 24th with a simple glass syringe, without the help of a skilled assistant. The blood was taken from the arm of the son, and received to the extent of four ounces into a vessel floating on warm water; here it was whipped and immediately injected into the cephalic vein, which had been previously laid bare and surrounded with a ligature, by which it was lifted out of its bed. The blood was slowly injected, care being taken that no air entered. No sensation of dyspnoea was experienced. During the injection, and after it, he said he felt easier. An hour afterwards he had a rigor, but no fainting or convulsions recurred. He was directed to continue the use of the iron, and to take cold broth with yolk of eggs. On the 26th he was much better, but some tenesmus occurring, a starch clyster was ordered with six drops of tincture of opium, and from this time he steadily regained his health. Upon the whole it did not appear that more than  $1\frac{1}{2}$  oz. were really injected. (*Berliner Klinische Wochenschrift*, No. 49, 1870.)

**The Treatment of Traumatic Tetanus.**—Dr. Zechmeister, of Esseg, observes that nearly every mode of treatment that has been adopted for the treatment of this disease proves ineffectual, and death alone relieves the patient from his sufferings. The only one that has proved really successful is the warm bath, but to employ this effectually it must be kept up, not for hours only but for days, and for as many as from ten to fourteen. In this mode he has succeeded in saving the lives of no less than five cases. Why, he asks, with so simple a remedy at hand, need the patient, already exhausted by convulsion, be still

further weakened by the administration of large doses of narcotic poisons, and, already in a state of partial asphyxia, be subjected to the action of morphia, atropia, Calabar bean, chloroform, &c. ? Dr. Z. gives no particulars respecting the temperature, but it certainly seems a plan worthy of being tried. (*Wiener Medizinische Wochenschrift*, No. 49, 1870.)

## Notes and Queries.

### DEPARTMENT OF ANALYSIS AND INVENTIONS.

ANALYSIS OF COMMERCIAL SAL-VOLATILE.—We observe, in a recent number of our valuable contemporary, the *Pharmaceutical Journal*, a friendly protest against our criticism of sundry specimens of Sp. Ammoniae Comp. which we had purchased at different respectable shops, and had analysed, with the result that they were found, with one exception, to vary greatly, and very seriously, from the Pharmacopoeial standard. The *Pharmaceutical* remarks that very probably we were not supplied with the article which these respectable chemists would have employed in dispensing medical prescriptions, but with an article of different strength and composition which individual tradesmen make to suit the taste of private customers; and that in fact such preparations, for amateur consumption, are often purposely made with materially different proportions of the ingredients to those required by the Pharmacopoeial directions. Now, in the first place, we greatly doubt, from our own inquiries, whether any section of the public has the slightest objection to the composition of the officinal sal-volatile. And unless this were very strongly and pronouncedly the case, surely there can be no excuse whatever for the chemist who sells as "Sp. Ammoniae Comp." a preparation which contains only half, or less than a half, the proper quantity of ammonia, and only from  $\frac{2}{3}$  to  $\frac{1}{2}$  the proper amount of alcohol. There is something very unpleasant to medical practitioners in the discovery that such articles are sold to customers who ask for "compound spirit of ammonia," at shops like those visited by our analyst. The tradesman is undoubtedly at liberty to prepare and to sell any stimulant preparation; but he is *not* right to sell, under the well-known Pharmacopoeial name, a drug which differs in such an important degree from the officinal preparation.

### CORRESPONDENCE.

A THERMAL SPRING IN CORNWALL.—Dr. J. Macpherson writes as follows:—"With respect to the remarkable thermal spring in Cornwall, in which chloride of lithium was discovered

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<sup>1</sup> Any of the foreign works may be procured by application to Williams and Norgate, of Henrietta Street, Covent Garden, W.C.; or to Messrs. Dulau, of Soho Square, W.C.

# THE PRACTITIONER.

MARCH, 1871.

## Original Communications.

### REMOVAL OF STONE-FRAGMENTS BY SYPHON-SUCTION.

BY PROFESSOR DITTEL, OF VIENNA.

*Translated by the Editor.*

THE operation of lithotrity can, in many cases, be so dexterously performed, by an experienced operator, that the patient feels little or nothing of it, since nothing is done to the bladder, and of what is done to the stone the bladder takes no heed. In such instances the procedure differs in nothing from a catheterism, and the urinary organs are not involved in the operation until the fragments come to be expelled from the bladder. A stone is reduced into pieces, which must be floated out from the bladder through the urethra. The detritus is either coarse, or fine and sandy; the large pieces may also tear the urethral wall, or they may stick fast, and require removal by instruments; and if this is impossible, and they cannot be pushed back into the bladder, urethrotomy may become necessary. The fine sand irritates the urethra, or collects in the prostatic sinus, if it accompanies the last portion of the urine, but is no longer extruded from the urethra. From the irritation which it causes at the caput gallinaginis inflammation of the epididymis is often excited, which, even in favourable cases, delays the completion of the operation,

and, when things take a bad course, sets up cystitis in one direction, and parenchymatous orchitis in the other, with possible exfoliation of the testicles.

Accordingly, the problem in lithotripsy has been, to make a fine detritus, and to float it out through a catheter, so that the urethra may not be irritated. Elaborate pumping apparatus have been devised for this end. The latest of these inventions (Robert Collin's) was exhibited to the *Gesellschaft der Aerzte*, by Dr. Mosetig. In order to criticise it, I must first explain the constituent parts:—1. A catheter of large calibre, with a short curve; the vesical end resembles the female branch of the scoop, it has only a posterior wall, the anterior wall of the open slit being closed by an obturator of bone, so that they may not wound the urethra walls in passing. 2. A closed glass cylinder with an opening in its axis before and behind. 3. A suction-pump, the piston attached to a dentated bar, which is moved backward and forward by means of a toothed wheel with a handle attached.

The operation is as follows:—Several ounces of water having been injected through a catheter into the bladder, one opening of the glass cylinder is attached to the catheter, while the tap of the syringe is inserted in the other, and the contents of the bladder are drawn out with some force. With the fluid there comes out detritus, which sinks to the lower side of the cylinder, the water above it filling the cylinder. If now the water be driven back into the bladder from the cylinder, the sand wells up into the bladder, and on the next extraction-movement is withdrawn again, the sand sinks again to the bottom of the cylinder, the water above it remains; and this manœuvre is repeated till the water brings no more sand out with it.

The method is altogether excellent, but in application to the living patient I have encountered difficulties which finally dissatisfied me with the operation. The following are the disadvantages of the procedure:—

1. The apparatus consists throughout of rigid materials, and it is impossible to perform the extraction and injection of the water without giving jolts. These jolts are unpleasant to the patient.

2. The force of suction acts very powerfully, and, as the extraction only occurs mechanically, the operator has no means of

perceiving whether he is doing too much or too little. It may easily happen that the vesical mucous membrane presses so forcibly against the opening of the catheter as to become injured. I attempted to avoid shocks by interposing flexible tubes, but these were often closed by atmospheric compression before the fluid could be extracted from the bladder.

3. I will now explain how I was led to the construction of my own apparatus. First, let me mention the method which I apply, in my own consulting-room, for emptying the bladders of patients. In order to keep my sofa from being wetted, I attach to the external end of the catheter a long caoutchouc tube, the free end of which passes into a vessel standing on the floor; in this way the bladder empties itself completely, and not a drop of urine is spilled. In October of this year (1870), a day-labourer had the misfortune to crush the dorsal vertebræ and the corresponding part of the spinal cord by a fall. He was admitted to Ward 42, and we then observed paralysis of the parts below the injury; the urine had to be drawn off with a catheter. When this was done, I found, from percussion of the bladder, that there was still urine left in the bladder, although none more escaped from the catheter. I attached an india-rubber tube, the free end of which passed into a vessel on the ground, whereupon a considerable quantity more of urine escaped before the bladder was emptied. The catheter and tube represented an ordinary syphon, and I had thus practical proof that the urine might be extracted from the bladder, by syphon-apparatus, in the same way as any other fluid from a vessel under similar circumstances. It was indifferent at what rate the urine might escape through the syphon; the only important matter was to determine whether the detritus in the fundus of the bladder could also be extracted by this method. This question was solved by an experiment in my room. I took a drinking glass, filled it with water, put some sand in it, and placed the tumbler on a chest; I now took a silver catheter with large eyes, attached a flexible tube to it, and carried the tube down below the level of the water. On the floor stood another glass vessel, empty. I now sucked the free end of the flexible tube, and then let it hang over the empty glass; immediately, the water flowed over, and also the sand, so far as the point of the catheter passed into the

latter. I had now the experimental proof that the syphon would extract sand, and probably also calculus-detritus. As the contact of the catheter-eye with the sand was necessary for the extraction of the latter, I constructed a catheter similar to my *porte-remède*. It is especially short anteriorly; has, moreover, no eye; it is provided with an obturator, which can be pushed forward on the catheter stem with a screw-movement, and fixed. This closure is necessary to prevent the urethral walls from being injured by the edges of the opening. With this instrument and a long enough syphon-tube, one can extract even coarse detritus with great force. It now remained to apply the apparatus to the living subject.

Among the four patients with stone who entered Ward 26 at the commencement of this semester, there was one to whose case the apparatus was not merely applicable, but was really the only resource left. Herr K——, 55 years old, had had cystitis in 1868, and in the winter of 1869 retention of urine occurred, as the climax of difficult urination that had lasted during the twelve months—probably in consequence of swelling of a bilaterally hypertrophied prostate. The first attempts at catheterism, at his own house, were badly managed and with poor results; and not till the beginning of 1870 was complete evacuation of the bladder effected, with a flexible catheter. A complete paralysis of the bladder remained. On the 3d of May the patient came to Vienna: I found pronounced catarrh of the renal pelves, paralysed bladder, bilateral hypertrophy of prostate, and a phosphatic vesical calculus. As he could not pass a drop of urine himself, I could not reckon on the spontaneous discharge of the detritus, and, after consultation with my colleagues, undertook lateral lithotomy. The phosphatic stone crumbled in the extraction. The wound remained free, but on the 20th of May I had to open an abscess in the left side of the scrotum, and, on the 22d, symptoms like those of pyæmia developed themselves, only there was no jaundice. The rigors were alarming; during this week they recurred many times every day, once as many as twenty. Temperature reached 104° to 105.5° F. The febrile movement fortunately ended in an attack of cavernitis in the left side of the penis. On June 4 there was notable fluctuation; I made an incision, and for several days a considerable exfoliation of the



necrosed erectile tissue went on. The healing of the abscess was very difficult, but was at length finally completed, the patient leaving the hospital on the 31st July, with only a very small sinus left.

On the 12th September, 1870, as I returned from my holiday-trip, I found the sad news that Herr K—— had again retention. When I examined him, on the 17th, I found a phosphatic stone of 3 centimetres' diameter. I have already once seen the very rapid formation of a *catarrhal* calculus; but this catarrh, as seen in Herr K——, did not appear intense enough to have produced such a stone in six weeks. It seemed much more likely that the stone had at first lain *perdu* in a diverticulum, and afterwards grown out of it. This opinion was made almost certain in the course of a lithotrity.

Under existing circumstances I had no choice, except either to lithotomise again, or to trust to good fortune and apply my stone-sucker to this living patient. I concluded on the latter course. On the 19th, I had the first *séance*; the patient did not suffer much, but in the four first operations I contented myself with the detritus, which I removed with the scoop. On the 15th October I first applied the suction-instrument. In all, I had two *séances* in September, five in October, four in November. On the 13th of November I concluded the operation with a final search, in which no trace of stone could be anywhere detected. In this case the apparatus had fully succeeded. Since that time I have several times had occasion to use the instrument—to discover its faults, and to improve it. In the first place, I saw that the curve of the catheter was too large; the sand is at the fundus, it was necessary to move the catheter round the bladder, and the greater the curve, the more the point rubs the bladder-wall. I therefore made my next catheter with as short a curve as a scoop would have. A second fault was in the edges of the catheter-opening, which it was impossible to have so completely rounded off as not to rub the mucous membrane of the floor of the bladder; this is still more the case when the fluid and the detritus have been extracted, for now the syphon draws the mucous membrane into the opening. This entanglement can be set free by diminishing or stopping the suction, as by raising up the long arm of the syphon.

On these grounds I altogether abandoned the short catheter with the obturator for sensitive patients, and resorted, in such cases, to a closed catheter, with one large eye well forward, very near the point. The point as far as the eye must be filled up, that fragments may not get lodged there and cause injury to the urethra in extraction.

A third defect was this : in order to inject the water into the bladder, one had to take the tube out of the lower vessel. But in the moment when fluid no longer flows out of the bladder, air passes in ; it is difficult to prevent this by compression of the tube ; indeed, one drives the air in the tube into the bladder. The air may perhaps do no harm, but it is at least superfluous, and the passing in and out of air-bubbles is unpleasant to the patient, and delays the whole process of extraction. I have, therefore, fitted the handle of the catheter with a separate additional piece : this consists of a tube, six centimetres long, into the midst of which a tube, two centimetres in length, opens at right angles. The additional piece has three limbs,—catheter limb, out-flow limb, syringe limb. Where these three tube limbs come together, there is a stomach pump valve-arrangement : in the first position of this the water can only be sent from the syringe to the bladder ; in the second position, the water can only flow from the bladder into the outlet tube. In this way, without removing the tube from the lower vessel, we can prevent the inflow of air, and make the extraction almost continuous, as long as we think proper. There is no doubt that, by such continuous extraction, we spare the patient the irritation from, and impaction of, fragments ; and this is clearly a not unimportant argument in favour of the apparatus. But a yet more important merit is that its use eliminates paralysis of the bladder from the list of the contra-indications of lithotrixy.

If we do not possess the additional piece and the stomach-pump action, and do not know how to procure them, a common catheter with a good large eye will sufficiently answer our purpose, only we must fill up the point with wax, and fasten a common india-rubber tube to the handle. The wider the calibre of the catheter, the better, because comparatively large fragments are extracted, and the still larger ones probably remain in the bladder for the next crushing.

In chronic catarrh of the bladder, also, the suction-apparatus is to be preferred, because the mucus and pus lying on the floor of the bladder, and acting as the *ferment* of the urine, can in no other way be so completely removed. If one does not thus absolutely cure the catarrh, at least an important symptom is got rid of. But one is often prevented from using instruments, which are technically just the right thing, because there are patients who only bear the use of an instrument with difficulty, and can only bear it once. There are constitutions in which a simple catheterism provokes urethritis. Such patients are not able to bear a suction-process, and one is glad to complete the lithotripsy at one operation. But whether such people are better for being left to expel the detritus by their own efforts, I am doubtful.

[On account of the great interest and importance of the above paper, it has been translated at length from the *Wiener medicinische Zeitung*, by the kind permission of Dr. Kraus, the editor of that journal.]

## THE TREATMENT OF PSORIASIS.

BY TILBURY FOX, M.D.

THE treatment of psoriasis has a peculiar interest for the English practitioner, not only inasmuch as psoriasis is one of the commonest diseases of the skin, but also in that it is more prevalent in this than any other country, and prevails amongst all classes of the community, being frequently very rebellious to treatment. It has been suggested that the exceptional frequency of the disease amongst Englishmen is to be attributed to the quantity of stimulating heavy food and malt liquors so largely consumed by them. Possibly this may be the case, but very special research would be needed before we could give a definite opinion on the point. If we contrast the views and therapeutical systems of English and Continental dermatologists, especially those of the Vienna school, among the latter we shall notice, and eminently so in regard to psoriasis, that in the one case the greatest reliance is placed upon the administration of internal remedies and in the other upon the use of external applications for the cure. In fact there is the widest difference of opinion on the subject. My very estimable friend Dr. Duhring, one of the rising dermatologists of America, writing in the *Philadelphia Medical Times*, on January 2d, and describing the impressions he derived from a visit to Europe, says: "England, like France, holds herself aloof from Germany, and seems to say, Pray how can there be anything better than this method that we have employed for the last half-century? Eminently conservative, she looks upon innovations suspiciously, and is thus debarred from the improvements made from time to time in Germany.

"The doctrines of dermatology, as set forth by English writers of the present day, are not based on recent investigations, but on the ideas advocated years ago, and many of them abandoned by other nations. In England, as in France, great attention is paid to the internal treatment of this class of affections, amounting in many cases to a total disregard of the external symptoms; and this, I think, may be set down as one of the characteristics of the English school. . . . Provided the pathology of the disease in question be understood, and means are possessed that will operate with certainty against the trouble, internal treatment is of great value; but where the pathology is involved in obscurity, and where a drug is given without associative knowledge of its mode of action, used empirically, there is danger of falling into error." And so he sums up by asserting that "little regard is given to the external treatment of cutaneous diseases in England."

Now, without answering for the shortcomings of others, I must challenge, at least in behalf of myself and my own school, the correctness of this criticism of English cutaneous therapeutics. We accept with avidity anything that Germany can teach us, but then, in many cutaneous affections of psoriasis, her teaching is based upon no more definite conception deduced from recent investigations as to the pathology of psoriasis, than we possess ourselves. We both find in psoriasis, for instance, an increase of the epithelial cell-elements and hyperæmia and stasis in the capillaries of the papillary plexus. Germany has not yet proved to us which is antecedent, the hyperæmia or the cell proliferation, nor the connection between the two; nor which, if either of the twain, is cause, which effect, nor disproved their dependence upon specific blood alteration. Germany has more theories than we have, and she has thrown much light of late on the minute pathological changes in the texture of the skin in cutaneous diseases; but she has as yet done little towards the discovery of the causes of these changes, or concomitant influencing conditions; and she so persistently rejects the use of internal remedies, and challenges the ground upon which they are given, that she draws away the attention of the devotees of dermatology from investigating the relation between the local and the general, leading them to concentrate all attention upon the mere local phenomena; and so, I think, runs the risk of

retarding the progress of cutaneous medicine. I refer of course here, in speaking of the connection between local and general, to the connection between local tissue-changes and disorders of the organic, the cerebro-spinal system of nerves, as well as of the blood. The rejection wholesale by Hebra of internal remedies save arsenic, and in skin diseases his use of water, soap, or tar and the like, are entirely based on empirical data; and the system of local treatment pursued by the Germans, and so lauded by Dr. Duhring, is often "a mere trying to find a remedy by chance," the purest experimentation.

If the pathology of a disease is obscure—and on that account internal remedies should not be employed against that disease because of the liability of error—then the same argument should be applied to the use of external applications. We use local remedies as palliatives to meet symptoms; the Germans use them as curatives, not knowing the cause of the diseases. But our English treatment is indeed, on the whole, on account of our recognition of the connection between constitutional states and skin diseases and the actual results we obtain, more satisfactory, it seems to me, than that adopted in Vienna; though I fully admit that our local treatment is, as a rule, defective, and requires great development. This latter fact is practically and fully acknowledged by such a step as the erection of our new baths at University College Hospital, which I hope will be completed by the end of May.

But there is another important consideration. I do not admit that the treatment found most suitable to the French or the German will be the most appropriate for the English. I am convinced that the contrary is often true. The constitutional conditions in the meat-eating, insular-dwelling, and malt-liquor-drinking Englishmen, I believe to be peculiar, and demanding peculiar treatment to a certain extent. But more on this point presently.

That the foregoing remarks are true I hope will be apparent from the following brief sketch of the plan of treating psoriasis, which I think is most reasonable, as far as our knowledge goes. Unless we combine in a happy manner the use of internal and external means, we cannot expect to obtain the best results.

On that conception of the nature of psoriasis is my treatment

based. Not that the disease is caused by a special diathesis, for we have not a particle of evidence of its existence. Not by the presence of a special blood contamination, because this would surely, as blood diseases always do, give evidence, by signs, of disturbance of the general system; the fact being, that a patient may be, *quoad* the skin, absolutely and entirely psoriatic, and yet in good health with healthy functions, which could scarcely be the case if the blood was so far altered as to induce a change in the nutrition of the whole skin. Not that the disease is an hyperæmia, with consecutive hypertrophous growth of the epidermic cells, because the hyperæmia is not necessarily primary, as far as we can see, because the amount of cell-changes bears no direct relation to the degree of hyperæmia, and the particular cell-change is often absent in hyperæmia; and lastly, because the first evidence of disease can be often observed to be an over-production and heaping together of epidermic scales. We seem to be led to the conclusion that the essential change from first to last in psoriasis is a misbehaviour of the cells themselves—a perversion of the ordinary cell life of the epidermis, no doubt connected with some lowering of the vitality of the system, as all proliferations are; but whether connected with derangements of the trophic nerves, or the presence in the blood of a large amount of the pabulum of the epidermic tissue, we have no evidence to show. But it stands to reason that anything that will increase the congestion will intensify the disease, as by the circulation of gouty products or retained excreta, and we know experimentally that irritants accelerate the disease, whilst anything that lowers the nutrition of the body will afford the disease more play. And it is to the negation of the whole batch of these more or less accidental influencing or intensifying conditions, that the operation of an internal remedy is directed. Bearing in mind, then, the fact that we have no specific—for arsenic is not specific, since it often fails to cure—for internal use, and that we have to try and discover, in any given case, causes of debility which specially allow the disease free play, or which directly tend to augment the tissue changes, I believe we should be careful to note in cases of psoriasis, in reference to general treatment, the following points:—

*Whether the disease is or is not typical?—typical as regards*

aspect and seat. The scales should be well developed, numerous, and white, the elbows and knees affected in typical psoriasis. But if the scales are few, fine, and adherent, and the disease, though extensive, does not attack the elbows and knees; if there be much more staining of the skin than usual, and the patches are small, circular, and generally distributed, we should be on the alert to discover a syphilitic taint in the system. I do not say that the disease may be probably syphilitic psoriasis, because I think the denomination a misnomer; but untypical psoriasis may be accounted for by the recurrence of psoriasis in syphilized subjects. It is the discovery of concomitant evidences of taint in the system that guides us in treatment. And there is another feature, which is still more suspicious,—that is, a multiformity of aspect: if there be any tendency to ulceration here, to the formation of tubercles there, especially about the palms of the hands or soles of the feet, or the formation of dark crusts, as one sees occasionally, about the legs, then the presumption of a syphilitic taint becomes strong. Donovan's solution is the remedy for untypical cases.

*Whether the disease is acute and general, or localised and indolent.*—In the former case, the skin is sensitive to external irritants, and liable to be easily congested from external troubles, and it is a very excellent plan to give diuretics freely for a while so as to relieve the skin, as it were, when the disease shows a tendency to invade a large portion of the surface rapidly. This is particularly the case where the disease assumes an inflammatory aspect, or is accompanied by pyrexial symptoms of any kind or in any degree. Aperients likewise do good service, under similar circumstances.

*The Age of the Patient.*—Attention to this point is of some little moment. In the young, we have to deal with mal-nutrition and want of food, or a strong hereditary predisposition; in the middle-aged, with mal-assimilation; and in the old, with gouty and rheumatic habits of body, in association with the circulation of uric acid and other excreta in the blood. If I may draw a practical conclusion from the results of practice, I should say, we shall find that most frequently the young suffering from psoriasis require to be fed up, and the old to be treated with a view to the remedying of deficient excretion.



*Station of Life.*—There is a wide difference to be made between the hospital and the well-to-do private patient. In the former, man or woman or child, there is frequently exposure of the surface to alterations of temperature, there is often poor living, deficiency of fresh vegetables or meat, in the diet of the child or adult; and milk in that of the young. There is in operation in women, again, the lowering effect of over-lactation, without proper means being available for the due sustentation of the mother, under ordinary conditions. The hospital patient, too, suffers under a lack of proper ablutionary arrangements, which gives the skin less chance of remaining in a healthy state. In the better class of society, high living and the free use of wines, stimulating dishes, and the like, without the taking of proper exercise, are at work to impurify the blood, and it may be give it an irritating quality, as regards a skin disposed to be psoriatic. Hence the value of aperient tonics in these instances.

*Diathesis of Patient.*—I find it of very essential importance to meet the lymphatic and strumous diathesis by the free exhibition of cod-liver oil: this is a course I never omit, and I think it serves me well. I have mentioned the syphilitic taint. If, as sometimes happens, the psoriasis takes on an eczematous appearance, I regard this as an indication that the nervous system is specially deficient in tone, and I have recourse to nervine tonics accordingly.

*When should we give Arsenic?*—I think in cases where the scaliness is well marked, and the disease in other respects typical, that is, attacking the elbows and knees as well as other parts; where there is nervous debility; after we have counteracted gouty influence, and got the excreting organs into due working order, if necessary; and when the disease is chronic. But I specially desire to speak of the results to be obtained by a judicious use of external measures, in connection with the remedies indicated, as appropriate to meet the several accompanying conditions above referred to.

I have already said that in acute and general psoriasis, the skin is very readily stimulated and congested, and, when this is done, the disease is likely to spread; so I have found over and over again. Hence I conclude—and the treatment adopted in the supposition shows how true the conclusion is—that in the

early stages of every case of psoriasis, especially in the young, where congestion is marked, and especially where the disease shows a tendency to spread and to develop itself in new places, the skin should not be stimulated, but simply soothed,—the object being to diminish, prevent, and dispel congestion, through the agency of which the disease is enabled to spread and develop,—whilst we exhibit appropriate internal remedies. In the later stages, and in certain cases from the beginning, stimulating the skin is not followed by any but good results; but here congestion, if present, is not of the active, but rather the passive kind; and these remedies should be employed where no new patches are developing, and the scaliness, rather than redness, predominates. Here is a ground for us, then, in the use of local applications in psoriasis: palliatives in the early and congestive stages; and stimulants, resolvents, revulsives in the indolent and chronic stages, where the cell-changes are the most noticeable feature. From doing violence to this therapeutical dictum, we inflict an immense amount of mischief. I am positive that I have—following the routine plan of treatment in years gone by—spread the disease (in the young especially) by the careless use of tar ointment; of this I have no doubt whatever. There is another point of great moment in the local treatment of psoriasis: to be sure that our remedies, applied for the cure of the disease, reach its real seat. It is by no means unnecessary to urge the importance of getting away the layer of scales in cases of psoriasis before we apply our tarry preparations and the like. This is done by a judicious combination of alkaline baths and water-dressing, or, where the disease is extensive, wet packing. But there is this to be said in reference to all watery or liquid applications, whether it be for the softening up of patches, or the removal of scales by maceration, that some oily or unctuous matter should *invariably* be applied after their use, so that evaporation may be hindered as much as possible, and so the patch or patches be prevented from becoming harsh, dry, and cracked. In fact, I think that maceration, or water-dressings, should never be resorted to, without the after application of unguents or oils of some kind or other. With these preliminary observations on the local treatment, let me sketch certain variations in medications that seem adopted for particular classes of cases.

Take the child first, in conjunction with the remarks specially directed against the lymphatic crisis mentioned before. I find, if the disease is pretty general over the body and the skin is irritable, that soaking in an alkaline bath, containing two ounces of bicarbonate of soda with two or three pounds of clarified size, every night for a quarter of an hour or twenty minutes, and subsequently the free inunction of oil, acts beneficially in many ways. Not only does it soften up the integuments, remove the scales, and soothe the skin, but I am by no means sure that the oil does not get in part absorbed, and nourish. This plan should be pursued for some time, so long as there is any disposition exhibited to the development of fresh spots. Then to the baths at night may be added some sulphurate of potassium, a quarter or half an ounce at first. If this stimulate, it had better be left off. I have lately tried, at Dr. Auspitz's suggestion, mercurial inunction, in the case of a young girl, which seemed to improve up to a certain limit, and then came to a standstill, even getting worse under the treatment; but with the effect of curing the patient completely. It is a plan I shall pursue with a view to testing its real merits. My general treatment for psoriasis in the young is now, in fact, the use of cod-liver oil and steel, alkaline and bran baths, with a free inunction of oil into the skin. I cannot say much in favour of arsenic.

We next come to the cases of ordinary psoriasis in the adult of an acute character, and in which the disease is characterized by a certain amount of congestion. Alkaline and bran baths, with inunction of oil in the first instance, prepare the way for a more effective plan of remediation. But so long as fresh spots are appearing, as a rule I withhold tarry preparations; and if there be any pyrexia, or the skin be irritable and congested, I use the simple diuretics freely. Of course attention must be specially directed to the mode of life, mal-assimilation, nervous debility, &c. But, supposing that the body is partially affected, and the scaliness is the most marked feature, and the patches of disease are not particularly thickened, the patient being in tolerable health: it is in such examples that water-dressing and wet packing are of so much value. Now, it is simply out of the question to get an Englishman to waste very much time over medications. There is his disease, consisting of irregular patches

of psoriasis, say all along the outside of his forearm or about his legs, his thigh and his body covered thickly with scales. You want to soften up the patches, but the patient won't be packed, or stay in a water-bath for several hours. In these cases we may take one or two places and apply wet rags, with oiled silk outside, in the evening before the patient goes to bed, as he sits and does his writing or his smoking. An arm and a leg, or two arms, may be taken one night, and a second leg and arm the next night. By the time the patient goes to bed, the patches have undergone sufficient maceration; the scales can be all removed, and some greasy application can be used. The following is a very good one to an ordinary case of psoriasis which is passing on to the chronic stage:—Nitrate of mercury ointment,  $\mathfrak{zj}$ . to  $\mathfrak{zij}$ ; powdered oxide of zinc,  $\mathfrak{zij}$ ; solution of lead (*aqua plumbi*),  $\mathfrak{ziss}$ ; carbohc acid, fl. dr.  $\mathfrak{ij}$ ; olive oil,  $\mathfrak{zj}$ . or  $\mathfrak{ziss}$ . The carbohc acid can be gradually increased, or the pyroligneous oil of juniper substituted for it. The water-dressing is sometimes too stimulating, in which case it must be used less frequently, whilst oil inunction should be more freely practised. As the disease is, or becomes, more chronic, strong tarry preparations may be used, the object of these being to check the cell proliferation without over-stimulating the skin. When the disease becomes still more chronic and indolent, and where the patches are much thickened, or where certain old spots continue to exist in particular parts without change, it is then that the so-called soap treatment and the use of absorbents and revulsives are called for, and are found to be very efficacious. The soap treatment consists in rubbing soft soap, from two to six ounces, according to the extent of the disease and the sensitiveness of the patient, into the diseased patches very firmly with a piece of rag night and morning, until the epidermis is rubbed off, and the congested derma bleeds; successive rubbings being adopted towards different regions day by day, the patient being kept in a blanket all the while.

The soap inunction, in fact, is pursued until each patch of disease is softened up, and the derma excoriated. Now, I believe that the plans of macerating in wet packing, and the soap treatment, do well in a certain number of inveterate and indolent cases in Englishmen; but that they can be used with us so exten-

sively, or to such an extent, as in Hebra's cases, I am prepared to deny, not only in psoriasis, but in other diseases. The skin of an Englishman is more apt, it seems, to take on inflammatory action,—that is my experience, judging of the results obtained from the adoption of foreign therapeutical recommendations; and it requires soothing remedies in much greater abundance. Indeed, whilst the same general principles of therapeutics of course hold good in regard to cutaneous troubles amongst English and the continental nations, I most emphatically say that there are important differences which we must observe as applicable to the two, and I enter my protest against the prevalent opinion and belief, that exactly what will suit a German or a Frenchman will suit an Englishman.

As we observe differences in the pathological conditions of the same disease, as seen in Vienna and London, merely even *a priori*, one may expect that some differences of treatment may be required to suit the respective constitutional conditions which result from the operation upon individuals of different modes of life, climatic influences, change of diet, habits, and a dozen other like things.

I conceive that it is of prime importance that we should have an English School of Dermatology of our own. The recent successful steps which have been taken at the College of Surgeons of England, to give it a real foundation under the leadership of Mr. Wilson, and to found a school which shall represent English cutaneous pathology and therapeutics, are a source of great congratulation. It is too much the fashion to accept German statements and opinions—most encouraging as they are—as perfectly representing English cutaneous medicine. Let me repeat, then, that in Englishmen psoriasis demands a much more soothing treatment, and a much more careful use of irritant and stimulant remedies, than is generally supposed. For my own part, I prefer in the chronic psoriasis of the adult, water-dressing, baths of sulphuret of potassium, and weak mercurial ointments, as far as local measures are concerned.

In the very chronic cases of disease, when we find the general health good, the persistent use of arsenic in the solid form is the best treatment, and phosphorus seems oftentimes to act effectively in connection with tonics or arsenic in those whose

nervous system gives evidence of too much wear and tear, from professional or other work, or mental care and anxiety.

Some of the most difficult cases the practitioner is called upon to treat, are those occurring in the aged, though, of course, they are not numerous. The disease often has a history of twenty or twenty-five years' duration, it assumes an inflammatory aspect, tends to become complicated with eczema, might be associated with organic diseases of the heart once again, and occurs in those who have lived freely, port-wine drinkers it may be, and who have a gouty tendency. This is often the case, and the disease is made worse by all the ordinary external applications. These are most difficult cases to cure, partly because of the obstinacy of the diseased in declining to pursue any one plan of treatment, tired as they are of trying different doctors and remedies. I believe that packing in oil is the best for these cases, with the free use of liquor potassæ internally, with quinine, for these patients sometimes bear arsenic very ill. When the skin is freed from scales and becomes less irritable, I know nothing so good as a weak nitrate of mercury embrocation, used after wet packing to certain portions of the body about every other day; the embrocation being cautiously used. But I prefer the oil packing to any other remedy, and it can be used each night, the patient being packed for the night.

One word about sulphur waters. In those cases in which any tendency to eczema shows itself plainly, in which the psoriatic patches are thinnish, pale, generally scattered over the body, itching, and accompanied by much discoloration of the skin, such waters as those of Harrogate are very good, in conjunction with sulphur baths. But I must not go into more detail. My main object in this paper was first to point out that there are very important conditions of the general health to be attended to in patients suffering from psoriasis; that these materially influence the disease; that the action of the conditions is quite clear; and that our treatment, directed against these influencing conditions, is not an empiric, but a most reasonable one, though we may not know the actual cause of the psoriasis itself. Secondly, to point out the necessity, whenever congestion is at all a distinct and particularly when it is a decided feature of psoriasis, at once to ascertain if possible whether there be any condition of the

general health to account for it, and if so to devise appropriate remedies, such as diuretics, antidyspeptics, and the like ; but also to adopt, in regard to local medication, a soothing treatment by emollient applications, alkaline baths, wet packing, and subsequent oily in unctions and the like, before using those particular remedies which tend to check the cell proliferation, which is the essence of the disease.

## ON THE EFFECTS OF THE PROLONGED USE OF MORPHIA BY SUBCUTANEOUS INJECTION.

BY DR. ANSTIE.

THE interesting papers by Mr. Oliver and by Dr. Clifford Allbutt in recent numbers of the *Practitioner*, on the effects of the continued hypodermic use of morphia, have suggested to me a few remarks which may fitly supplement their observations. Neither of these papers contains anything which my experience actually contradicts; nevertheless I think there is more to be said, and that this additional matter tends to modify considerably the conclusions which might otherwise be drawn from them, more especially from the paper of Dr. Allbutt.

That the morphia syringe has been greatly abused cannot be doubted; indeed, I possess ample evidence that it has been employed with a carelessness which is almost incredible when one remembers the powerful nature of the medication. It is a fact that the subcutaneous injection of morphia has become a comparatively common household remedy among certain classes of society for some years past. More especially among the very numerous persons, chiefly women, who suffer either from neuralgia of greater or less severity, or even from attacks of nervous depression and sleeplessness without positive pain, it has become a too common practice to inject themselves, or to get injected by their servants, whenever they feel symptoms of their besetting trouble. That such a practice should have sprung up at all is sufficiently lamentable; but it is still more to be regretted that in a certain number of instances it has arisen from the careless directions of the medical attendant, who has prescribed the remedy on a particular occasion, but has



omitted to warn the patient and his or her friends of the danger attending its repetition, especially with increased doses, without express medical sanction. A refined species of opium-eating has thus sprung up, with special delights and special dangers of its own. Even within the limits of its employment under direct medical orders, the prolonged use of morphia injections has produced, I fear, considerable mischief. It is the object of the present paper to show that the risks of such mischief may be reduced to a minimum by strict attention to certain rules and principles which seem to be as yet imperfectly understood by many practitioners.

That there is a special state of chronic narcotism induced by the continued repetition of *large* hypodermic doses of morphia is a fact familiar to many physicians. It differs strikingly from that which results from the persistent abuse of opium or morphia taken by the mouth, in the slighter effects which it produces on consciousness, and especially in the fact that it usually scarcely impairs, if indeed it does not decidedly increase, the activity of appetite and digestion; hence it is far more consistent with the active performance of the duties of life, and with the maintenance of general bodily nutrition; and so far it must be considered as a much smaller evil than the constitutional habit induced by the old-fashioned forms of opium-excess. But it is quite as fatally effective as the latter in weaving a chain of habit from which the patient can either not escape at all, or can do so only by great efforts involving the prolonged endurance of much distress. It is certain, then, that the physician can only be justified by very special circumstances in allowing such a condition to be set up in any patient under his charge. Fortunately I am enabled to say, from a large experience, that it is only in rare instances that we are reduced to this necessity.

There are, in fact, three degrees of the action of morphia, hypodermically injected, which differ from each other in essential particulars: (1) that induced by small purely stimulant doses, given only once or twice, or repeated at intervals of twelve to twenty-four hours for a shorter or longer time; (2) somewhat larger doses, gradually reached, and repeated with some frequency over a considerable period; (3) large

doses, repeated daily or oftener, requiring to be continuously augmented, and often continued, of necessity, throughout the remainder of the patient's life. The first two of these degrees of action are the only ones which, in the great majority of cases, the physician ought to employ.

1. The hypodermic use of purely stimulant doses of morphia is of wide application, and of a value which it is difficult to exaggerate. In the intense pains of the early stages of acute serous and fibrous inflammations; in the early stages of neuralgias; in the insomnia and delirium of many adynamic fevers; in phagedænic ulceration;<sup>1</sup> in the dyspepsia of nervous irritation; and also in some cases of decided catarrhal inflammation of the alimentary mucous membrane, this kind of administration of morphia produces effects superior to anything which could be obtained before its introduction. Let it be clearly understood what is meant by purely stimulant doses of morphia. I mean such doses, whatever their exact amount (and this may range from  $\frac{1}{12}$  to  $\frac{1}{4}$  grain, in different subjects and varying circumstances), as produce relief of pain, natural sleep, and cessation of delirium, which check excessive epithelium growth on mucous membranes, and stimulate the repair of ulcerated parts, *without producing either stupor, contracted pupil, or subsequent constipation of bowels or burning of tongue*. Here is no vestige of narcotic action; and, after the disappearance of the immediate effect, there is no depression, no indescribable uneasiness, no yawning or sighing, no craving for the repetition of the dose. So long as such doses, only, are administered, and are administered only for the definite purposes above named, no opium-habit is set up: the patient can discontinue the injections the moment that the special need for them has ceased, without the least inconvenience. This constantly happens, for example, in the acute stage of pleurisy: again, in acute rheumatism I have never observed this kind of use of the syringe to prolong the state of enfeeblement and of liability to recurrence of pain in the manner which Dr. Allbutt describes. I think I shall be able to show, presently, how those unfortunate results are probably produced.

<sup>1</sup> On this point I could adduce striking evidence which appears to be little known.

2. There is a second grade of hypodermic morphia action which we are all occasionally obliged to employ, but which is also very frequently induced quite unnecessarily, and with objectionable effects. The small purely stimulant dose of morphia will not always suffice to effect our object. That object may be, for example, to relieve, with all speed, a pain so violent as to be directly depressing in a mischievous or even dangerous degree. Even here it is our duty, in the first instance, to try the small dose, and it is surprising how often it will succeed: but in a certain number of cases it will quite fail; and we must then frankly acknowledge to ourselves that it will be necessary to *narcotise* the patient to a certain extent. We then administer such a dose (*e.g.*  $\frac{1}{2}$  grain or more) as will quickly produce some stupor and contraction of the pupil. Now if the course of the illness be such that this process has to be at all frequently repeated, we soon discover that our weapon is two-edged: the morphia-habit, already described, becomes fully developed, and, whatever else may happen, we may be sure, at least, that we shall have considerable trouble afterwards in inducing the patient to give up the medication. But a more substantial evil is sometimes produced. If the temporary mischief, to remove which we have consented to the induction of narcotism, be not conquered by a very few narcotic doses, there arises a new condition of things. Narcosis, it can never be too frequently repeated, is a *depression of nervous life*. At first this depression is so slight and temporary that (in vulgar parlance) it is spoken of as merely "functional," though, assuredly, alteration of function is never without its correlative in modification of tissue. From a few such temporary depressions of its life the nervous system has sufficient recuperative power to recover quickly and completely; but if the morbid process be repeated too frequently and too strongly, there is no such recovery, or only a partial one. The outcome of such a series of actions is, that the nervous system enters upon a new kind of physiological life, in which it is unable to work harmoniously without the constant presence, in the blood that feeds of it, of a calming and regulating agent like morphia.

3. This kind of evil reaches its highest development in those unhappy cases where, from one cause or another, an individual

has long adopted the habit of using large doses of morphia every day or more frequently, and has now come to employ a very large daily allowance of the drug. Such a state of things may have arisen from mere wanton indulgence on the patient's part, or it may have been induced by the ever-present agony of an incurable malady (such as neuralgia of the worst type, or malignant disease), and the medical attendant may have been reluctantly compelled to acquiesce in a medication which he must nevertheless deplore. The injurious effects of this kind of habit are plainly perceptible in the general enfeeblement of nervous power of all kinds: the intellect and (even more strikingly) the moral energy steadily decline in power; but the most notable downward tendency is, after all, on the side of the sensory nervous system; for although temporary relief to pain can always be procured by a sufficiently large dose of injected morphia, the tendency to renewal of the pain becomes more and more pronounced, and a notable degree of hypersensitiveness to trivial sources of irritation becomes more and more apparent from day to day and from week to week. Moreover, if the injection be now omitted, the pain returns with an agony incomparably more severe than that which would attend the disease when uncomplicated by the results of the prolonged use of morphia. Besides the effects visibly and directly produced through the nervous system, there are changes of nutrition in the tissues; at least I am under a strong impression that a particular kind of muscular atrophy, which especially attacks the facial muscles, is one of the results of large and long-continued doses of hypodermic morphia. This effect, I believe, is also observed in ordinary opium-eating, and gives rise to the curiously *lined*<sup>1</sup> appearance of the face, which is different from the results of simple emaciation, as is also another occasional symptom, the deposition of a considerable amount of brown pigment in the skin of the face.

The three degrees of action of hypodermic morphia above described certainly represent very different physiological facts, and they are no less different in their practical relations to treatment. Let me insist, first of all, on the narrow limits

<sup>1</sup> I speak of advanced stages. In the early part of a course of opium excess the face is, on the contrary, unusually smooth, rounded, and full.

within which, alone, the physician ought to tolerate the third or highest degree of the medication. Considerable experience has convinced me that there are only two kinds, even of incurable pain, in which we really need yield to the tendency to increase the daily dose to a very high point: the pains, namely, that are produced by steadily progressive *ulcerative* processes involving nerves, or by continuous and increasing *pressure* on nerves from a tumour (cerebral tumour affording, perhaps, the most exquisite examples of this last). I particularly wish to say that, in my belief, the necessity need never arise in chronic incurable *neuralgia* if the medication be properly managed from the first. Having been much engaged in the treatment of neuralgic affections during some years past, I have had occasion to hear the past history of several patients who, when they first came before me, had already arrived at the daily use of very large hypodermic doses of morphia; and, without exception, I have found that their medical attendants had commenced the hypodermic treatment by doses which were unnecessarily large for that stage, and which, in fact, from the first always produced considerable narcosis. Now, in treating my own cases, I have found that this practice is not merely superfluous, but that it ought to be avoided, as it is sure to produce needless mischief; and I shall here give a typical example of the way in which I have been gradually led to treat the class of cases now referred to.

The patient is a lady in advanced life, who some seven years ago was attacked, for the second time, with sciatica. The first attack had occurred some thirty years previously: the malady was then extremely severe and obstinate, but at length departed, leaving her free from anything like localised neuralgia until the commencement of the illness from which she still suffers, and the immediate exciting cause of which was anxiety of mind. This lady is herself of a highly nervous and emotional turn, and comes of a family in whom the emotional and æsthetic mental temperament has always been conspicuous. One fact in her case deserves particular record, as showing the extraordinary power which nervous *commotion* exerts over her organism. She has always had abundant hair: this was bright brown in her youth, but comparatively early in middle life it

began, under the influence of repeated anxieties, to turn grey. But the remarkable circumstance (which all her friends can verify) is that, without the falling out of a single hair, the whole mass would fluctuate backwards and forwards between brown-grey, iron-grey, and almost snow-white, in the course of a few weeks or even days, according as her mind was calm or disturbed. Even now, though the hue is far more permanently grey than it was a few years since, there are considerable fluctuations from time to time, according to the state of her nervous system. The sciatica was from the first very violent and intractable, and unfortunately the patient was unable or unwilling to take that prolonged and complete repose in the recumbent posture without which no sciatica, certainly no genuine and severe sciatica occurring in advanced life, can be cured. The consequence was that all hope of cure had at length to be abandoned, and mere palliation, by morphia, was the best course remaining open. For some time the patient took the drug by the mouth ( $\frac{1}{4}$ -grain doses), as I did not see my way to providing her (in a strictly country place) with the means of daily hypodermic injection. However, about three years since, I overcame these difficulties, by carefully instructing her servant in the use of the syringe. I commenced with either the  $\frac{1}{11}$ th or  $\frac{1}{12}$ th of a grain (I am not quite sure which, but remember distinctly the surprise of finding that so small a quantity produced twenty-four hours' complete immunity from the pain); and notwithstanding the daily use of the injection up to the present time, we have only increased the dose to  $\frac{1}{4}$  grain, at which point it seems likely to stand for some time to come. It is difficult, without using language that would sound extravagant, to indicate the value which hypodermic morphia has had for this lady. The agonising sciatic pain was shattering her whole nervous system, and her general health was in grave danger of a fatal collapse, when we commenced it. Since she has used it, she enjoys a great deal of calm happiness, her mind is active and clear, though her emotions are still very easily excited; she has comparative, though not complete, immunity from pain, and her general nutrition is unquestionably in a very good state for her time of life.

It is very interesting to analyse and estimate, in this patient,

the truly narcotic effects; for such there are, though they are at a minimum, in consequence of the strict economy with which the morphia has been used. There is *very slight* contraction of the pupil observable during two or three hours after the injection. There is occasionally a slight excess of sleepiness, making it rather difficult for the patient to rouse herself in the morning; and towards three o'clock in the afternoon (about two hours before the usual time for injection) the beneficial influence of the morphia has usually given way, not (save exceptionally) to positive *pain*, but to the indescribable sense of depression which Niemeyer's patients so graphically represented to him by the phrase "katzenjammer." This feeling disappears almost immediately after the injection, the patient enjoys her dinner, is lively and conversational during the evening, and goes to bed at 11, or later, to enjoy, most commonly, what would be considered a very good amount of sleep for a person of her age. In fact I see no reason to doubt that, if preserved from fatal acute disease, this patient has many years of a by no means unhappy or unfruitful life before her; certainly not free from suffering, but with no unendurable suffering. Whereas I cannot doubt that, but for the medication, she would now have been far advanced towards fatal exhaustion, if, indeed, that point had not been already reached.

There can surely be no doubt that such a method of employing the hypodermic injection as the above is perfectly legitimate. Granting fully that we have here a fully formed morphia-habit, difficult or impossible to abandon, it does not appear that this is any evil, under the circumstances. I would even venture to say that, for elderly persons afflicted with an incurable painful disease, such a result of treatment affords an ideal of what we could desire.

Even more interesting, however, than the question of treating these hopeless chronic neuralgiæ, is the discussion of those cases in which we employ the hypodermic injection of morphia confessedly in somewhat narcotic doses, but with the hope of completing a cure within a moderate time, and then abandoning the remedy altogether. Such a case as that of intestinal obstruction after typhoid fever, related by Mr. Oliver,<sup>1</sup> or some of those neuralgic and rheumatic patients alluded to by Dr. Allbutt,<sup>2</sup> may

<sup>1</sup> *Practitioner*, February 1871.

<sup>2</sup> *Practitioner*, December 1870.

well arrest our attention. I cannot too much insist on the fact that, in all such cases that I have treated, the main and essential action of the morphia was evidently tonic-stimulant; the narcotism was a more secondary and comparatively unimportant matter. Still, it must be allowed that the narcotic effect is unavoidably carried so far, in a considerable number of cases, as to effectually implant a craving for the medication, and a distressing feeling when it is withheld for any considerable time. I must say that I fully agree with Mr. Oliver in the opinion that the deleterious effect upon the nervous system need never be carried so far as to make it impossible, or more than slightly difficult, to carry out the plan of total abstinence as soon as the immediate object of the treatment has been accomplished. And I must add that, in my experience, it has not been found that the injections, when carefully controlled as to dose, have tended to aggravate the sensibility of the nerves. Take, for example, the case of very acute rheumatism with extreme pain in one or several joints; a disease which has been frequently treated without any other medicine than hypodermic morphia: (I do not now advocate this exclusive plan; on the contrary, I am convinced that Dr. Reynolds's large doses of sesquichloride of iron afford great assistance in mitigating the distress of the acute period, and probably in averting visceral complications.) The common practice is to inject as much as half a grain at a time, and I suspect it is to the use of such high doses, and even much higher ones, that after-mischief, such as the prolongation of the rheumatic tendency of which Dr. Allbutt speaks, is generally due. At least, I know of cases where grain-doses have been injected night after night for weeks together, and must confess that in such instances there has been a strong suggestion, to minds of onlookers, that the physician was artificially prolonging the disease. I cannot tell whether Dr. Allbutt himself used even as much as the smaller of these two high doses: but even quarter-grain has appeared to me unnecessarily large in some cases; and I always now try the effect of one-sixth grain first.

In short, it appears to me that the proper lesson to be derived from the novel and interesting facts which so many physicians have learned, during the last few years, concerning the occasional evils of hypodermic morphia, is not one of panic, or distrust of one of the most valuable inventions of the century, but simply



one of much increased care as to dosage. I venture to say, that if practitioners generally will adopt the plan of *always trying very small doses in the first instance*, and (if it be anyhow possible) adhering to these, very few of the ugly phenomena of the new-fashioned morphia-habit will ever present themselves as the result of their prescriptions. As for private persons injecting themselves without strict medical orders, and especially as to their venturing to fix or in any way to alter the dose on their own responsibility, I need hardly say that such folly is as little to be permitted as it would be to give a child a flask of gun-powder and a lighted candle to play with.

The other danger to which Mr. Oliver alludes is more obscure, and to me not quite intelligible. He speaks of alarming symptoms—heart feebleness, flushed face, and prominent eyeballs—as occurring *instantaneously* after injection, when the copious bleeding gave some ground for thinking that a vein had been wounded. Does Mr. Oliver suppose that in this case the morphia, introduced directly into the circulation, produced a suddenly paralysing effect upon the heart and also upon the cervical sympathetic? If there were any considerable chance of this happening, from the accidental entry of the injection-tube *longitudinally* into a vein, the matter would be somewhat serious. But instead of recommending operators to trust to the selection of a comparatively non-venous part of the surface of the body as the site of injection, it would, I think, be also necessary always to insist on the use of an instrument with a solid bayonet-point, and a lateral opening; this would really make it impossible for the accident in question to happen. It has been suggested that the accident related by Mr. Oliver, and some others, in which collapse followed rapidly upon hypodermic injection, might have been caused by injection of air into veins. But there is, I think, no shadow of reason for thinking that the injection of air into a peripheral vein could produce those symptoms of collapse which have undoubtedly followed the accidental admission of air to the jugular or some other very large vein. On the whole, I doubt whether the danger of *sudden* accident after injection can be shown to have much importance. And it would be a great pity if a needless panic on the subject were to deprive sufferers of a kind of relief which they can get in no other way than by the hypodermic injection.

## CONTRIBUTIONS TO OPHTHALMIC THERAPEUTICS.

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### ON THE PERIOD OF OPERATING IN SENILE CATARACT.

WHEN a patient, advanced in years, has once been told that an increasing failure of vision is due to cataract, and that the defect will continue to increase until it is removed by surgical operation, the period at which that operation should be performed becomes the next question for consideration. In determining it, surgeons have for many years been guided by certain familiar rules; and these rules have gradually impressed themselves upon the public also. It has been said that no operation should be advised, until the cataract has become "mature" in both eyes, or at least until all useful sight has for the time been lost; and, under this impression, many persons have been, and even now are, condemned to many wearing months, or even to years, of partial blindness and of much mental anxiety.

The custom of waiting for two cataracts to be fully developed was the natural and perfectly legitimate sequence of the mode of operating which for many years prevailed, and which has only lately been in great measure superseded by better methods. By the results of those methods the conditions of the problem presented to the surgeon have in many respects been changed; and maxims founded upon a state of things that has ceased to exist come in their turn for reconsideration.

In the proceeding that was once called simply "extraction of cataract," and that is now distinguished from the modern operations as "flap extraction," the surgeon cuts through about one-

half of the circumference of the cornea, and leaves the nutrition of that membrane dependent upon the other half alone. Having incised the anterior capsule, he next presses out the opaque lens through the natural pupil, thus stretching the muscular fibres of the iris, and squeezing or pinching especially that portion of the iris which is opposite the incision. He leaves the eye with a large wound, which, if the cornea be at all soft or flaccid, has much tendency to gape spontaneously, and into which the iris is easily made to prolapse by coughing, straining, or even by slight and unavoidable movements. Without taking into consideration the numerous accidents which happened in the hands of beginners (and all the operations for cataract support the maxim that learners must necessarily spoil a portion of raw material), it is manifest that flap extraction was beset by many risks and chances of failure; and that many of these were incidental to the process of healing, and quite beyond the control of the surgeon. Taking large numbers, and the results of skilled operators only, it may be said that out of every fifteen flap extractions, one eye would be totally destroyed by acute suppurative inflammation. Four more would suffer from delayed healing, complicated with iritis, and generally attended by obstinate and distressing neuralgia. Of such cases, the eyeballs would waste, and sight be lost, in about half; and in the other half there would be partial recovery with closed pupil, affording a prospect of a more or less good result from a subsequent operation. Eleven eyes would be restored to some degree of sight by the extraction alone; and in some instances to a degree leaving nothing to be desired. In such cases the results are so delightful to the patient, and so satisfactory to the practitioner, that they serve to bury the memory of many comparative failures. Moreover, in the days when flap extraction prevailed, it was not customary to test exactly the degree of acuteness of vision; and, as every patient operated upon had been blind, and gained something if enabled to see at all, the imperfect results of the operation attracted little attention. They were often due to the position of the wound in the corneal tissue, which, in the contraction incidental to healing, produced alteration of the curvature of the cornea, and occasioned the formation of distorted images.

The reason why so large a number of eyes were attacked by

dangerous or destructive inflammation remained for a long time unknown. It was felt that the large wound required all possible quiescence and protection, and it was customary to leave the eyelids closed for three, four, five, or even for seven days. If the upper eyelid remained normal, all was going on well, and it was proper to let well alone. If the eyelid became red or swollen, some mischief was taking place, and would be increased by any exposure of the wound. Under the influence of such reasoning as this, the surgeon never saw the eye until its fate was no longer doubtful.

The German ophthalmologists, however, or to speak more correctly, the late Professor von Graefe—upon the very scraps of whose fame and labour, the very chips of whose workshop, so many of his countrymen have waxed loud and vain-glorious—suffered from the malady that was so distressing to the members of the Barnacle family. Von Graefe “wanted to know” why the eyes from which he had extracted cataract, sometimes fell away from the paths of well-doing. In pursuit of the required knowledge he began to examine all the eyes that he operated upon, to lift the lids daily or more frequently, and to inspect all the visible parts of the organ by the gentle light of a wax candle. He found that, in a large proportion of cases, the first departure from healthy action was by the occurrence of inflammation in the portion of the iris opposite the section which had been squeezed in the exit of the lens. This iritis spread sometimes only to the rest of the membrane, sometimes to the whole of the eyeball, and sometimes it checked the nutrition, and caused the sloughing, of the cornea. Von Graefe suggested that it might be expedient to remove, as part of the operation, the portion of iris that was chiefly exposed to danger; and it was at once evident that, this being done, the exit of the lens would be much facilitated, and would take place through a smaller external wound. The working out of this suggestion was undertaken, on a considerable scale, by Schuft and by Mooren, who pursued different methods, and each of whom published a pamphlet descriptive of the success he had obtained. Schuft made an incision with a lance-knife, as if for iridectomy, in the ordinary way, excised the piece of iris, and then, through the same external wound, scooped out the lens with a little spoon that came to be called after his name. The

good results that he claimed were not obtained by others who followed his example; and it soon became evident that his method had defects calculated to interfere with its general adoption. The form of his spoon was thought to be objectionable; and various modifications of it were introduced, described, commended, and finally laid aside by all but the inventors, and sometimes even by them. The former result is not to be wondered at; because there is often, I think, a degree of individuality in a surgical instrument. A man contrives something which mechanically corrects the particular deficiency of his own hand, or which enables him to avail himself to the fullest extent of its particular power, or which in some other way fulfils a personal want. The same considerations apply often to the minute details of an operation. It may be true that A or B can best bring about a given result by a certain precise form of manipulation, and it may be equally true that C or D would best bring about the same result by some small departure from this form. There is here no ground for exalting one method, or for decrying the other; and we should rather recognize the fact that every successful operator must possess some small *souppçon* of what I may venture to call technical originality. When, however, an instrument or a method is abandoned by him who contrived it, there can be no doubt that the condemnation is practically upon the merits.

The plan adopted by Mooren differed from that of Schuft in essential points. Mooren made an iridectomy in the ordinary way. When from two to six weeks had elapsed, and the eye had perfectly recovered, he performed flap extraction in the ordinary way. He thus set aside three great sources of danger. There was no iritis as a result of bruising. There was no delayed healing from prolapse of the iris into the wound. It was sufficient to make a smaller corneal section than if the pupil had been entire; and hence the wound was less liable to gaps, and the nutrition of the cornea was less interfered with. Mooren's plan, whether in his own hands or in those of others, gave excellent results, and saved many eyes that would otherwise, almost inevitably, have been lost. The two operations, however, with an interval between them, constituted a very objectionable feature. People in the better classes, when they had once made up their

minds to submit to the knife, wished to be cured at once ; and hospital managers grumbled at the protracted stay of patients. Mainly for these reasons, the method took no root in England. I practised it several times in 1862 and 1863, and with good results ; but was constantly led away from it by some new form of scoop, and by the hope of obtaining a more speedy cure by a single operation. In the meanwhile Von Graefe had been devising the method of extraction which bears his name, and which, now that it has been perfected by the experience of many operators in many countries, and now that its results have been tested by time, may be said to leave almost nothing to be desired. It would be foreign to my purpose to describe the operation minutely, but I may say that the external wound, which is situated chiefly or entirely in the sclerotic, never exceeds a third, and often does not exceed a fourth, of the corneal circumference, that it is subconjunctival, and that it has no tendency to gape. The piece of iris opposite this wound is excised ; and not only the nucleus, but every scrap of the cortex of the cataract is removed from the eye with sedulous care. The result is that the anxieties of the operator cease with the completion of the operation. When that is well accomplished, healing of the section by the first intention takes place almost as a matter of course ; and any slight iritis produces no worse consequence than a necessity for the subsequent laceration of a film of membrane by a needle.

The performance of Graefe's cataract operation, as of all others, requires practice in points of detail ; and, as all operators had their experience to gain, it is hardly fair to lay much stress upon the first statistics that were published, although these were greatly better than those of flap extraction. Professor Knapp, of New York, late of Heidelberg, has published the results of 300 cases ; and the last hundred may fairly be taken as an expression of what we may expect to accomplish in the future. Out of the 100 cases, three eyes were lost ; in six, the result was imperfect ; in ninety-one the result was good. A good result means one in which the acuteness of vision was equal to, or greater than (in the vast majority much greater than), one-tenth. A patient, with vision equal to one-tenth, would read a well-printed folio Bible at ordinary distance, and would

read letters two inches high at a distance of ten feet. In an "imperfect" result the vision would be less than this. In one hundred cases of cataract there would be many in which there would also be some other form of eye-disease, and in which a perfect result would be simply unattainable. Only a portion of the defect would be dependent upon the opacity of the lens; and only the portion thus dependent could be cured by its removal.

While, therefore, the ophthalmic surgeons of a former period were fully justified in delaying the extraction of cataract until the patient was so blind that he could not be made much worse, and until the maturation, *i.e.* the softening of the cortical portion of the lens, had proceeded so far that this cortical portion would escape from the eye with great facility, it is manifest that the improved operations of our own time equally justify the adoption of a somewhat different view. To patients of every class, the time spent in waiting for the maturation of cataracts was a period of great uneasiness and suspense, which often acted most prejudicially upon the general health and the power of repair. To the educated and the comparatively wealthy it brought the irksomeness of the compulsory abandonment of accustomed resources and pursuits, with little inducement to take up others better adapted for defective sight, because there was always the hope of restoration, tempered by the ever-present fear that this hope might not be fulfilled. To the labouring classes the progressing cataract brought the loss of employment and income, the premature expenditure of savings, and, in many cases, the reduction of healing power, and the diminution of the prospect of recovery, by an absolute want of the food necessary for the maintenance of vigour.

Guided by these considerations, and regarding the presence of cataracts in the eyes and the fear of eventual blindness that they involve, as being actual and very serious evils, I have been for some time accustomed to ask myself, in every instance, How soon will it be possible to operate? In replying to this question, the cases occurring in practice may be arranged into four groups, as under:—

1. Those in which cataract is present in one eye, and wholly absent from the other.

2. Those in which cataract is mature in one eye, and incipient in the other.

3. Those in which cataract is making nearly equal progress in both eyes.

4. Those in which one eye is wholly lost from some different cause, and cataract is incipient in the other.

In the first group, in which cataract is present in one eye and absent from the other, an operation can only be required for persons in whom a "blind side" is a source of danger. Those who are moving about among any sort of implements or machinery, or among busy people in crowded places, are liable to have an eye accidentally injured when its sight is so far gone that it can no longer instinctively protect itself. Many persons have been rendered hopelessly blind by the sympathetic ophthalmia excited in a sound eye by some injury to a defective fellow. The danger hardly arises so long as the failing eye can discern moderately large objects; and it is practically non-existent for careful people who lead quiet and sedentary lives. For those who lead active lives it is not very remote; and in them the removal of a single cataract may be advised on the ground stated. For ordinary vision nothing will be gained; because the eye operated upon, having lost its power of optical adjustment, and requiring a lens of different power or position for each different distance, can never be made to work in perfect harmony with its fellow. Still, the various risks incidental to complete monocular blindness will be at once and effectually set aside.

In the second group, in which cataract is mature in one eye and incipient in the other, my own practice is to operate at once upon the former. *Cæteris paribus*, the earlier in life an operation is performed, the greater will be its chance of success. Under the conditions supposed, eventual blindness is inevitable; and it is best to spare the patient the discomfort which even a short period of blindness involves. Moreover, if there is still tolerable sight with one eye, the patient will be content to wait three months before bringing the other into use. Such a period of repose can seldom be obtained from a patient who was blind prior to the operation, and who is generally only too eager to exercise the newly-recovered faculty. I am quite sure, however,



that premature use of an eye often permanently impairs the results of an operation ; and, under the influence of rest, it will as a rule be found that after an operation the vision will continue to improve for three months at least. For these reasons it may fairly be held that the operation upon one eye should generally be recommended and practised as early as possible ; and that, not only in order to prevent the occurrence of actual blindness, but also in order to add to the conditions which contribute to a successful issue.

In the third group, where cataract is making nearly equal progress in both eyes, much will depend upon the rate of that progress. If it be rapid, both patient and surgeon may be content to wait. If it be slow, a patient in independent circumstances may be very injuriously affected by prolonged worry and anxiety, and a patient who depends upon sight for bread may be reduced to want. When either of these contingencies may be anticipated, the surgeon is called upon to consider how best to obviate the evil. It then often becomes desirable artificially to hasten the maturation of the cataract in one eye, by puncturing its capsule, and allowing the aqueous humour to act upon the cortex. The procedure is by no means free from risk, and should only be attempted when the patient can be kept under constant observation, so that the entire lens may be removed without delay if any active inflammations or other mischief should be set up. With whatever caution practised, there is a distinct addition to the chances of failure *quoad* the cure of the cataract. The patient has two eyes ; and it should be carefully explained to him, that by subjecting one of them to some extra risk, he may obtain a speedy restoration to sight. If the die falls adversely, and the eye should be lost, the other remains to him in reserve, to be treated with more caution than the first. If he should ask for any numerical statement of the danger, there are no materials for supplying it. The results of the practice under consideration have not been recorded in a sufficient number of instances to afford a trustworthy basis for statistics. Judging from what I have seen, I believe these statistics, whenever they are brought together, will be more favourable than those of flap extraction ; and I, therefore, do not hesitate to recommend, if

need be, that the anterior capsule should be punctured in the class of cases under consideration.

In those of the fourth group, however, where the patient has no eye in reserve, and where cataract is making slow progress in the remaining one, the evils of waiting must be very clear indeed in order to justify early interference. It is manifest that they may be thus clear, or that many circumstances may arise to render any certainty preferable to suspense. The probabilities on either side of the question should then be fairly stated and fully explained to the patient and his friends, whose ultimate choice may fairly guide the conduct of the surgeon.

Besides influencing our judgment about the time for the performance of extraction, the new operation has greatly taken from the importance of several conditions that used to be regarded as almost prohibiting interference. In the days of flap extraction cough was a great bugbear, and frequently caused prolapse of the iris into the wound. Now that the piece of iris opposite the wound is excised no such prolapse can take place, and cough is comparatively, perhaps absolutely, harmless. In the same way conditions requiring frequent recourse to an upright posture, such as asthma or irritability of bladder, have very little influence upon the small section. Chloroform, which was shunned by many in flap extraction, for fear of the straining of sickness, may also be administered with good effect; and protracted confinement to bed is no longer necessary. It follows that many of the fears and precautions with which cataract extraction was once properly surrounded may now be regarded as belonging to the past, and that they should be suffered to go the way of the circumstances in which they took their origin. Surgery can boast of few greater triumphs than the modern improvements in cataract extraction; and these improvements have been brought about in the only right and sound way, by careful study of all the sources of failure in the old operation. It is now time that the public should enter upon the full fruition of the benefits that have been thus obtained for them.

## A CRITIQUE OF DR. WILKS'S THERAPEUTICS.

BY THE EDITOR.

DR. WILKS has just published, in the *Lancet*, the first part of a discourse delivered to the pupils of Guy's Hospital, which contains the statement of certain therapeutic doctrines which we feel it our duty immediately to discuss. Their distinguished author has by no means overrated the importance of this profession of therapeutic principles on his part. In the first place, they come with all the authority of one who is not merely himself a very able physician and an examiner in the University of London, but a teacher whose thoughts on practical medicine should be the very "consummate flower" of the great clinical and pathological school which has centred in Guy's Hospital during the last forty years, and which includes such names as those of Bright and Addison, to say nothing of lesser luminaries. And, secondly, being what he is, Dr. Wilks has propounded a series of therapeutical principles which are so totally subversive of what we, with the best attention we have been able to give, believe to be the tendency of the most enlightened modern thought and investigation on the subject of therapeutics, that we feel bound to controvert them with such skill as we can employ. We are fully conscious of the formidable nature of this undertaking; but, with all deference to our antagonist, we are bound to forego this consideration, the more so as we are convinced that Dr. Wilks has unintentionally much misrepresented some of those writers to whom his criticisms evidently apply, and has thus raised issues which are in great part fallacious and unreal. How far the concluding portions of his discourse will be found to extend or modify his argument remains to be seen; but, at any rate, the part already published contains positions about which

there can be no possible mistake, and which form a legitimate subject for independent criticism.

The main principles which Dr. Wilks puts forward are these :—

1. That our only real knowledge of the value of remedies is empiric, not physiological. 2. That we are not to treat symptoms which individual patients may present, but the diseases from which they are suffering.

Now it is obvious that there is a sense in which the above propositions, if not rigorously true, are approximatively correct. We must all confess that therapeutics can as yet find but a slender basis in physiology. And it is true that an indiscriminate attention to the treatment of symptoms tends to distract our minds from the essential nature of the disease. Had Dr. Wilks stated no more than this, his remarks might pass as truisms. Very different, however, is the significance which they bear, when we observe the inferences which he draws from them, and the attitude which he consequently assumes towards the therapeutics of the present day.

For instance, when Dr. Wilks speaks of the action of remedies, he specifies quinine in ague, and zinc and iron in chorea, as types of remedies which are directly and unmistakeably useful, and at the same time perfectly mysterious as regards their *modus operandi*. And he contrasts with them such agents as opium, chloroform, and conium, as to which we do know that they have certain very definite actions upon the nervous system, and which are nevertheless of very little use in severe nervous disorders, such as chorea, tetanus, and mania, where they might have theoretically been expected to prove most actively curative. That Dr. Wilks should select quinine as a model of a valuable empiric remedy was natural enough ; yet even here there is room for protest, for, if it be true that the action of quinine was not in the least understood formerly, it is not less true, that at this particular moment the researches which are being carried on, more especially in Germany, tend strongly to connect the action of quinine with a rational theory : at least in regard to its most important function. But when Dr. Wilks speaks of zinc and iron as being the most valuable remedies for chorea, and that they act therein in a quite unknown manner, he surprises us. Zinc, as far as we know anything of the prevailing feeling among physi-

cians who practise much in nervous diseases, is pretty well given up as a remedy for chorea; our own experience of it is, that in small doses it is inefficacious (the disease running an unaltered course), and that in large doses, if continued long enough to make any serious impression on the chorea, it is apt to produce something much worse than the latter,—namely, a profound anæmia, with partial paralysis in extreme instances. And, as regards iron, we are perfectly convinced that, except in the strongly anæmic cases, this remedy has no effect whatever; and even in them, the effect is only indirect and contingent. In fact, the iron is only useful as a remedy for what Dr. Wilks would call a “symptom,” although, as will be hereafter seen, we think the phrase is strikingly misapplied. And when we turn from the anti-choreics which Dr. Wilks approves to those which he denounces, we must demur quite as strongly to his wholesale condemnation of conium. Every physician knows that it is extremely difficult to find any genuine remedy for chorea except “six weeks” (that is to say, if we are talking of the chorea of childhood, for we need not say that the acute chorea of early sexual life, or of pregnancy, are utterly different complaints, which, we suppose, no one would think of treating with zinc or iron). Nevertheless, among the cases of chorea in children there are a few really susceptible of direct benefit from treatment, if taken at the onset; and if Dr. Wilks has failed to do good to such with conium, it must be, we think, because he has not used it properly. And for the equally limited number of cases in which chorea tends to become an affair of months instead of weeks, it is strange indeed that Dr. Wilks should for an instant speak of the benefits of iron, while ignoring the far greater powers of *arsenic*, which, by the way, is one of the most powerful neurotics in the Pharmacopœia.

It is when he speaks of the treatment of *diseases rather than symptoms*, however, that Dr. Wilks seems to us most thoroughly wrong. He is, in the first place, labouring under an entire misconception. He speaks of the treatment of mere symptoms, as if it were the great characteristic of recent medicine. Now, it is quite true that the treatment of symptoms is the prominent characteristic of *homœopathy*, as Dr. Wilks remarks. But that is the very reason, or at least one of the most powerful reasons, why the homœopathic system has been decisively rejected by all

the representative workers in modern therapeutics. To such men the fallacy of such a system is obvious, for its method rests upon a diagnosis which is a mere *inductio per enumerationem simplicem*. But Dr. Wilks is in error when he confounds the homœopathic system of treating *symptoms*, with the modern practice of treating the *individual patient*. He chooses to assume that the "fussy" practitioner who prescribes a mass of different drugs all at once, because he thinks that every prominent feature of the illness must be actively dealt with, is carrying out the latter practice; but nothing could be further from the fact. The men who have most strenuously insisted that the individuality of the patient must be considered no less than his nominal disease, have also been among the foremost to denounce the "fussiness" in question. Their argument is this:—that it is not enough for the practitioner to make up his mind that patients A and B have each of them pneumonia, and then to proceed with calm equanimity to administer to each certain supposed anti-pneumonic drugs; for although both persons may be suffering from nearly the same degree of hepatisation of the lungs, and both may even have been made ill by the same immediate cause (*e.g.*: exposure to cold), the diseases may be as different as possible, by reason of the different vital states of the two individuals. For example, A may be a previously healthy subject; B may be the subject of fatty heart; and how disastrous would be the results of any attempt to treat these two upon the same plan! Yet this is substantially what Dr. Wilks proposes. He asks us to adopt the principle of treating diseases according to their formal designations, and he speaks as if this were a new idea. But in truth it is not new at all, it is the revival of a very old and familiar practice, and one which, with all deference to Dr. Wilks, we believe to represent the worst phasis of medical thought. It is exactly what men did when they believed that each special disease was a special morbid entity, that entered the body, rioted therein for a time, and then either extinguished the patient, or was cast out by the physician. We, on the contrary, believe that disease is the sum total of the actions evoked in the body by the action and reaction of certain external influences and certain individual peculiarities of structure.

We grant, of course, that there are groups of diseases in which the phenomena will present certain general resemblances in all the patients; but we remark that those points in which the cases agree are unfortunately *not* those upon which the question of whether the physician can or cannot save his patient usually turns. We say, for example, that in typhoid fever the mere knowledge that *that* is the disease will avail us very little in really difficult cases. Suppose that the disease has arrived at the end of the third week, and that the question begins to press seriously upon us, whether a natural defervescence is about to take place, or whether, without free administration of alcohol, the temperature will be maintained or increased, and the patient will sink, exhausted. In order to form a sound opinion, we must especially consider things which are entirely individual to the patient; his age and general strength of constitution; the degree of stability of his nervous centres; but, above all, the muscular power of his heart, the contractile resistance of his arteries, and the manner in which his circulation reacts under stimulants. To weigh carefully these things, is, in fact, to measure the patient's residual vital energy, and to discover the only reliable ground for interference, or for abstinence from interference.

Or let us take another instance, in a different field. A patient is brought to us suffering from sciatica, and the very practical question presents itself, whether we shall or shall not employ blistering. Upon the system of Dr. Wilks, we have nothing more nor less than "sciatica" to deal with, and the same general principles of treatment ought to be universally applicable. (We are supposing, of course, that the case is not utterly exceptional; for instance, that the disease is not caused by the impaction of a foreign substance.) But the physician who treats his patient as an individual, and not as a member of an artificial class, finds that he must ask a variety of questions. He has to consider the patient's age, and this not merely in actual years, but in regard to the physiological stage of development, or degeneration, at which he has arrived. He knows, for instance, that, if the sufferer be a young person, only recently affected, the mildest form of skin-stimulation only is required; if he be middle-aged, especially if the malady is of some standing,

decided and repeated blistering is very likely to be most useful, indeed essential; whereas, in old age (whether actual, or relative to the degenerative changes in the tissues, especially in the arteries), blistering can only be regarded as of secondary and exceptional use. The question, also, of family history is of material importance, not only as regards the prognosis, but as to the chances of producing benefit by any such means as blistering. If, for example, we find that the patient is not merely advanced in life, but comes of a family strongly marked by neurotic tendencies, it is small good that can be expected from blistering in sciatica;<sup>1</sup> the best chance of cure is to keep the attacks of pain at bay with hypodermic morphia, while sedulously employing the constant galvanic current. And yet, upon the system of treating diseases, not individual patients, the proposition that blistering was *the* proper remedy for sciatica would have a most plausible appearance.

We must remark, further, that Dr. Wilks seems to limit the possibilities of treatment to the narrowest alternatives. Either we must pursue the method which he proposes, or we must, perforce, treat external phenomena only, rejecting all exact diagnosis. On the contrary, we believe the fact is, that those who most keenly feel the individuality of patients are the very men who would most rigorously insist on a thorough diagnosis; and whereas Dr. Wilks's plan would seem to consist in making out, once for all, the main physical lesion (as *e.g.* hepatised lung), and conducting the treatment thenceforth almost, if not altogether, by mere reference to the title written upon the bed-card, the plan which individualist physicians (to coin a phrase) would follow includes of necessity the taking strict account of every phase, not merely of the ordinary course of the disease, but of the extraordinary symptoms which are the expression of changes in the organs that are due to their original vital status. Who can tell, for example, at the commencement of delirium tremens in a middle-aged subject, what amount of reserve force the heart will prove to possess? Yet this is all-important; and as the changes in cardiac structure which most specially favour a fatal result in these cases are particularly obscure, and are often quite

<sup>1</sup> Less, *e.g.*, than even in epileptiform facial tic, in which a blister over the occipital triangle *does* sometimes do good.



beyond the capacities of the best diagnosis to discover at first, it is imperatively necessary to keep ceaseless watch for any indications of the manner in which the heart of each individual patient is likely to bear up against the strain imposed upon it by the conditions of the disease.

It is not our only objection to Dr. Wilks's principles of treatment that they tend to consecrate once more the obsolete idea that disease is a definite thing implanted in the body from without. Almost more hurtful than this is their obvious tendency to inculcate an excessive reliance upon what may be called "dead-house pathology." We are far from despising such information as can be derived from the post-mortem room, but it is only one small element of a rational pathology; and we cannot but regard it as a serious misfortune that so many workers in morbid anatomy seem to look upon the coarser anatomical changes discoverable after death as if they measured the work of disease. It is true that this kind of research occasionally leads to a triumph in practical therapeutics. Dr. Wilks has given an excellent example of this in the case he cites, of the rational treatment of ulcerative inflammation of the bowel by physiological rest. But such occasional triumphs would be dearly purchased indeed, if their necessary cost were the adhesion to that sort of view of disease which appears to prevail extensively among the gentlemen who hand round dead flesh in soup plates at the Pathological Society. Not to dwell upon the serious fallacies that are constantly engendered by forgetfulness of the fact that the contents of the soup plates only represent the *débris* of disease, and give us little idea of the nature of its destructive march, there is a certain hopeless, and, we venture to think, very irrational scepticism, as to the benefit of any but happy-go-lucky treatment, engendered in too many minds by a monotonous course of this kind of study, scarcely relieved by any note or comment to give it a human interest and an intelligible bearing on the science of disease. It was natural that this wide-spread scepticism should force itself on the notice of so able an observer as Dr. Wilks. With all respect for his abilities, and his honest convictions in this matter, we believe that he is wholly wrong in thinking that it arises from the tendency to seek for rational modes of treatment and to study

the constitutional peculiarities of individual sufferers from the same (nominal) disease. And we do most earnestly protest against the panacea that he proposes to apply. It seems to us that to despise research into the physiological action of drugs, and to revive the metaphysical idea of the entity of diseases, is to combine the two most powerful engines of mischief which an able teacher of medicine could possibly wield against the best interests of the science and art which he, in common with us all, is endeavouring to serve.

As we conclude these lines, the remaining portion of Dr. Wilks's lecture appears, in the *Lancet* for the current week. It contains some further remarks, and illustrations of his already-cited doctrines, which will occupy our attention on a future occasion.

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[Reviews of a number of Books are unavoidably postponed from want of space.—ED. PRACT.]

## Clinic of the Month.

### The Treatment of Suppurating Glands of the Neck.—

Mr. Lawson Tait makes some judicious remarks on this subject. The routine treatment of cod-liver oil, iron, and quinine, iodine, and poultices, is seldom departed from. Differences of opinion exist as to whether they should be opened early or late, or not interfered with at all; but whichever way this part of the treatment is conducted, the same unsatisfactory ending in a disfiguring cicatrix is the inevitable result. The "look" of the thing is bad, and from the popular notion that every scar on the neck indicates "scrofula," many a poor mother's life has been embittered, many a poor child's prospects seriously interfered with, owing to the ineradicable neck mark. This objectionable condition may be avoided in very many cases by careful perseverance in a plan of treatment which Mr. Tait states he has adopted for some years. It consists simply in tapping a gland as soon as it is ascertained to contain pus, and in continuing this treatment until the cavity no longer secretes. The means with which he effects this, is the little instrument known as Dr. Alexander Wood's Morphia Syringe. Only two precautions are necessary, and these are, never to introduce the needle twice at the same spot, and to introduce it very obliquely into the abscess, entering it at least half an inch from the margin of the tumour. As a rule, the direction must be from behind, forwards; but occasionally it may be done from before, backwards, or at right angles to this direction. He has had to persevere till he has made as many as fifty punctures at intervals of from one to ten days before the treatment was successful; the success being constituted by the complete disappearance of the tumour without the skin ever breaking. The amount of satisfaction the patients express at being saved the disfigurement of a gland-mark amply repays in thanks the great amount of trouble required. (*British Medical Journal*, Feb. 4.)

In a note upon the above communication in the following number of the same journal, Dr. John Murray observes that, in his opinion, more attention should be shown by practitioners to the simple plan of drainage than is customary. In the case of a girl recently under his care with several enlarged cervical glands, one of which, as large as a chestnut, had already suppurated,

Dr. Murray passed at once two silk ligatures through the tumour by means of a needle, and tied the free ends. The mother was directed to keep the openings patent by moving the ligatures a little twice or thrice a day. In a week the tumour had much diminished, a considerable quantity of pus having been discharged. He then introduced in place of the silk sutures, one of Professor Lister's catgut ligatures, soaked in carbolic oil, which answered the purpose admirably. This was removed in three or four days. A fortnight after the first visit, the abscess had ceased discharging, and the needle wounds had healed. The part was then painted with collodium flexile.

**Kneading in Constipation.**—Dr. Savage, *d-propos* of a remark made by Dr. Black in a lecture on "Constipation," to the effect that kneading of the bowels is not likely to do good, reports a case where this treatment, accidentally applied, saved the patient's life. The patient was an old man, otherwise healthy, but suffering from constipation and excessive pain over the right hypochondrium, so severe as to hinder examination; enemata were used; the pain lessened, when a tumour was felt where the pain had been; this was soft and semi-dull. Enemata were continued, sickness and vomiting followed, stercoraceous matter being injected. The patient seemed sinking, another medical man was called in consultation, and, as there was a difference of opinion as to the nature of the tumour, it was manipulated several times. Soon after, the patient passed a large quantity of hard feces, and found that the tumour had disappeared. (*British Medical Journal*, Feb. 11, 1871.)

**Treatment of Bronchocele (Goitre) by Electrolysis and Subcutaneous Injection of Iodine.**—Dr. Wahltuch records a case of a young lady who had suffered from bronchocele for four years, and had used iodine freely, both internally and externally, without experiencing relief. The size of the tumour was that of an egg. Dr. Wahltuch at first ordered bromine internally and externally, but, as no benefit accrued, he commenced, on July 14th, the electrolytic treatment, beginning with eight Daniell's elements, and the insertion of one needle, and gradually increasing to sixteen Daniell's elements, and the insertion of four needles at first twice a week, then once a week till January 5th. The mode of operation was that the needle connected with the negative pole of Althaus' permanent battery was inserted into the tumour, the circuit being closed by placing a moistened sponge connected with the positive pole to the skin of the neck. The current was allowed to act at first for three minutes, but the time was gradually increased, until it amounted to an hour. The tumour after each operation became softer, and began to swell; the enlargement continued for twenty-four hours, after which it

gradually subsided to a size below its previous dimensions. After the twenty-fourth operation, the tumour had diminished to the size of a hazel-nut, and consisted of the right lobe alone, the left and middle lobe having been reduced to their normal size. Further operations caused no more reduction, and all treatment was discontinued for six weeks, during which time the size of the tumour remained unchanged. The hypodermic injection of iodine tincture into the enlarged right lobe was then tried. The injection consisted of one minim of tinct. iodi in nine minims of water, then two minims with eight, and so increasing its strength till twenty minims of the pure tincture were injected at twice, with the best effects, the tumour disappearing altogether at the sixteenth operation, at intervals first of a fortnight, and then of a month. (*Medical Times and Gazette*, Jan. 28, 1871.)

**Scientific Therapeutics.**—Dr. Wilks publishes in the *Lancet* part of a lecture, which we criticise on another page, in which he points out that the teaching of the present day in respect to disease must necessarily be to a considerable extent empirical, and that it is comparatively useless to attempt any theory or explanation of the action of the various remedies commonly employed. He points out the rarity and comparative want of value of those drugs which theory has proposed, compared with others brought us from barbarous times and nations, such as digitalis, bark, arsenic, or ipecacuanha, and he maintains that experience alone has informed us of the value of remedies in particular diseases; that we have no special indications whereby we can be certain of their action, or, in other words, that the individual symptoms afford us but little aid in the proper use of a drug, but that we are rather guided by the totality of the symptoms, or by what is called the “disease.” Referring to the advice frequently given to students, not to treat a disease from its name, but rather to study the symptoms, so that each case may be treated on its own merits, he at one time believed it to be true, but now knows that, even if true, it is a feat that cannot be accomplished. He gives various instances of the hazard incurred by attempting to treat symptoms alone, rather than by regarding the disease as a whole, and treating it in the manner which experience has dictated to be the best. (*Lancet*, Feb. 18, 1871.)

**Puerperal Convulsions treated without Bleeding.**—Dr. J. J. Phillips observes that so much difference of opinion has for many years existed in the profession as to the best means of meeting this serious complication of the puerperal state, that it seems desirable to possess additional facts in reference to its therapeutics. After referring to the older authors who, like Denman, strongly urged the necessity for bleeding, and to the

great mortality that attended this mode of treatment (La Chapelle and Becquerel considering that one-half died), he points to the different views adopted by Dr. Radcliffe and Dr. Hughlings Jackson, to the effect that convulsions are an indication of nervous debility, and to the success of the treatment of convulsions by chloroform,—Chailly-Honoré saving eighteen out of nineteen cases, and Professor Braun having had sixteen successful cases. He then reports a series of seven cases of his own, in all of which chloroform was administered, and no blood was taken, and which all terminated in recovery. These cases, he continues, are too few to warrant conclusions being drawn from them alone; evidence is, however, he thinks, accumulating in favour of chloroform, and he submits the following propositions as supported by theoretical considerations and practical experience:—

1. That bleeding has no claim to be regarded as a remedy for puerperal convulsions, and that, in the majority of cases at least, if seen at an early period of the attack, it is unnecessary.
2. That bleeding is often injurious by predisposing to various puerperal ailments, by retarding convalescence and sometimes by increasing the violence of the paroxysms. Also that the present diminished mortality is probably chiefly due to the less free depletion which is now practised.
3. That the chief reliance should be placed on chloroform, which prevents the recurrence or diminishes the violence of the paroxysms.
4. That in mild cases it is sufficient to keep the patient very slightly under the influence of chloroform in the intervals, more being given when the indications of a fit are seen; but that, in severe cases, the patient should be kept for a time uninterruptedly under its influence.
5. That if the convulsions have already produced much pulmonary congestion, it is beneficial to withdraw a few ounces of blood before administering chloroform; and that generally it is advisable to lessen the tendency to cerebral congestion by the application of cold water to the head.
6. That it is rarely necessary to interfere with labour before the os uteri is dilated, or in those cases when the convulsions precede labour, but that it is usually expedient in the second stage to complete delivery, due regard being had to the condition of the uterus. (*Guy's Hospital Reports*, 1871.)

## Extracts from British and Foreign Journals.

**Treatment of Diphtheria.**—Dr. Steiner, after a few introductory remarks upon the nature of diphtheria, in which he states that in his opinion we are not at present in a position to determine whether diphtheria is a constitutional and blood disease, or whether it is only a local affection, appears, however, to be himself inclined to regard it as of a parasitic nature, since the methods of treatment he has adopted are chiefly local, with the exception of the administration of chlorate of potash and quinine. The means employed consisted in the application by gargling, inhalations, pencilling, or powdering, of the following agents:—1. Aqua calcis in fourteen cases. Of these, nine terminated favourably, five fatally. The solvent action of the lime-water on the diphtheritic slough was very well marked. The false membranes had in great measure, or entirely, disappeared in the course of six or eight hours. It did not prevent the adoption of other measures. It did not appear to be capable of limiting the diphtheritis to the fauces or to prevent its extension into the larynx and bronchia. 2. Acidum lacticum. This remedy, which was first suggested by A. Weber, as a solvent, for the false membranes found in croup, was applied by Steiner in the form of inhalations (15 to 20 drops of lactic acid being contained in one ounce of water), but with the same unsatisfactory results as in lime-water. Of seven cases, three recovered and four died. Lactic acid must be admitted to effect a speedy detachment of the diphtheritic membranes, but no greater power of arresting the progress of the disease can be attributed to it than to the preceding remedies. 3. Ferrum sesquichloridum (applied with a brush to the parts affected). The solution and separation of the false membranes did not occur so rapidly as after the other means, but, when once this had been accomplished and the chloride was brought into direct contact with the ulcerated surfaces, the latter appeared to assume a healthy aspect, and the process of healing was promoted. Of four children treated by this method, two were saved, and two died. 4. Spiritus vini applied by means of a brush, and also in the form of wet compresses around the throat. No remarkable effect upon the false membranes was observed of

three children thus treated belonging to the same family; one died, and two others recovered. 5. Sulphur sublimatum. Dr. Steiner agrees with Hanner, that the action of flowers of sulphur, if it have any at all, is only that of a slight caustic. The application was made by insufflation, and was repeated every three or four hours. Two slight cases treated in this manner recovered; a severe one died. From these experiments Dr. Steiner draws the conclusion that slight cases of diphtheria recover under all of the above methods of treatment, whilst severe ones prove fatal; and that we are not at present in the possession of any remedial agent that is capable of limiting the diphtheritic process to the fauces, but that the aqua calcis is perhaps the most valuable remedy on account of its unmistakeable influence in effecting the solution of the diphtheritic membranes. The plan which he adopts is the following: locally, lime-water; internally, the administration of chlorate of potash, quinine, and wine. When laryngitis appears, he gives emetics; and, in asphyxia, resorts to tracheotomy. (*Jahrbuch für Kinderheilkunde*, Band iv. 34, and *Centralblatt*, Dec. 31, 1870.)

**Nitrous Oxide Gas.**—Dr. Maclaren contributes an excellent paper on this anæsthetic to the *Edinburgh Medical Journal*. He describes the history of its discovery, the mode of preparation, and the best method of administering it. In the majority of cases the patient is off in one minute and twenty seconds; and that this is accomplished, is recognized by a peculiar change in the appearance of the patient, or by a nervous twitching of the hands. The pulse sometimes intermits for a beat or two at this time, and the breathing may be arrested for a period equal to four or five respirations. The hearing and the memory for auditory impressions often remain acute after the other senses are in abeyance. There is no struggling or excited stage as in chloroform, and recovery is usually rapid and complete. The room should be kept perfectly quiet during and after the administration of the gas. The time required to produce insensibility varies from forty-five seconds to two minutes and thirteen seconds. The quantity of the gas required varies from two and a half to six gallons, the average quantity being three and a half gallons. Dr. Maclaren conceives its advantages as an anæsthetic are: 1. Its safety, only two fatal cases having been recorded. In one of them the lungs were riddled with tubercles, and in the other the cork used as a plug to keep the teeth apart was found in the pharynx. 2. The absence of troublesome after-effects. 3. The rapidity of administration. 4. The position. 5. The absence of anything disagreeable in the smell or taste of the gas. Its disadvantages are: 1. The rapidity of recovery from its effects. 2. It is rather



troublesome to administer; and 3. The apparatus for making and administering it is costly. Dr. Maclaren, thinks its use should be avoided in all cases of diseases of the lungs in which the breathing of the lungs is much embarrassed, and when there is evidence of serious brain or heart disease. (*Edin. Med. Journ.* Jan. 1871.)

**Sticks of Mitigated Chloride of Zinc.**—Dr. Köbner, of Breslau, states that chloride of zinc has been employed by many surgeons, but that its strongly hygrometric properties render it a somewhat unsatisfactory agent. He has therefore made various experiments to determine in what way its attraction for water might be reduced. The results of his inquiries have been that nitrate of potash, in the proportion of two of the chloride to one of the nitrate, is the best means. M. Bruns, however, found potassium chloride the best agent for keeping it dry. In either case the two should be fused together, cast into a mould, and coated with tinfoil. In this condition it will keep for weeks, and constitutes an excellent caustic, occupying the mean between nitrate of silver and caustic potash. Like the former, it can be applied so that its effect should penetrate deeply whilst it is quite under control. He considers it to be well adapted for the treatment of lupus, syphilitic and scrofulous ulcers, and weak granulations. It leaves smooth cicatrices. (*Wiener Med. Wochenschrift*, No. 58, 1870.)

**Lobelia in the Treatment of Tetanus.**—Dr. Butler, of Cleveland, Ohio, records three well-marked cases of tetanus in which the use of this remedy was followed by complete relief. The first case was a woman aged 21, who was suddenly seized with convulsive twitchings of the lower extremities. The jaws soon became (in 34 hours) firmly locked, and there was occasional well-marked opisthotonos. Morphia and antispasmodics had been fruitlessly given. Dr. Butler ordered tinct. verat. virid. with evacuating enemata. The following morning all the symptoms were materially aggravated, and he at once determined to test the nauseant and prostrating effects of lobelia inflata, and proceeded to administer it in the form of enemata every fifteen minutes. Distressing nausea followed in about an hour, accompanied by profuse perspiration. Just at the moment when syncope from nausea seemed imminent the locked jaws opened, and vomiting set in. The painful rigidity of the muscles yielded in the course of an hour, leaving the patient comparatively comfortable; the pulse fell, there was much perspiration, and bromide of potassium was substituted for the lobelia in 30-grain doses every hour. The next day there was a relapse, which yielded to the lobelia enemata. The action of the drug was, however, gently maintained by the administration of a tea-

spoonful of an infusion containing two ounces of the leaves in twelve ounces of water given every half-hour. No recurrence of the affection followed, and the patient speedily became convalescent. The second and third cases appear to have been still more severe, but also gave way to the steady employment of lobelia. From these instances Dr. Butler thinks the conclusions may be drawn:—1. That lobelia, as a powerful nauseant, will control the circulation; 2. That lobelia, as a prostrating nauseant, proves antispasmodic; and 3. That lobelia, as a powerful sudorific, eliminates whatever materies morbi is conceived to act as the exciting irritant in tetanus. (*Med. and Surg. Reporter*, No. 718, Dec. 1870).

**Ipecacuanha in the Treatment of Fever.**—Dr. Stephen, of Reading, Pennsylvania, having observed that intermittents, remittents, and the continued fever, are frequently in some stage or other complicated by dysentery, while dysentery is very often found existing with some form of idiopathic fever, showing so close a relationship as to lead to the conclusion that the primary pathological condition is, if not in all cases, at least in nearly all, the same, was led to the belief that ipecacuanha, which in large doses exercises such a wonderful power over acute dysentery, would prove equally effectual in enteric, and possibly in all the forms of essential fever. He therefore determined to give it a trial, and selected for the purpose, from a number of cases of typhoid fever under treatment, the most severe and best marked case. This proved to be a boy of 12 years of age; and, discontinuing all other treatment, 20 drops of opium tincture were ordered for him, to be followed in half an hour by 20 grains of powdered ipecacuanha in some sweetened water. Vomiting occurred immediately after the ipecacuanha was taken; nevertheless, on the following day all the symptoms were alleviated, and only one discharge per ounce had occurred. The treatment was continued in the same doses twice a day for about four days, when the patient was convalescent. In a second case, the bowels were confined; nevertheless the administration of the ipecacuanha and opium acted as a gentle purge, and led to speedy recovery. He considers that ipecacuanha, guarded by opiates, checks the further increase of the fever poison, braces the heart and nervous system, and restores to the bowels, whether their morbid condition be one of diarrhoea or of constipation, their normal physiological action. (*Med. and Surg. Reporter*, Dec. 1870.)

**Operation for Strangulated Hernia.** Indications that the Sac or Intestine is exposed.—An interesting paper which appeared in the *Archiv für klin. Chirurgie*, 1870, has

been translated by Dr. Oscar Ansiaux into French for *La Presse Médicale Belge*, No. 8, 1871, and from that the following translation has been made.

The surgeon has the sac before him.

1. When the cellular or fibrous layers divided are thin in reference to the volume and age of the hernia; for a large and old hernia has proportionately thicker layers than one of recent date.
2. When the incision has been followed by a flow of hernial fluid.
3. When the tumour is irregularly depressed and hollowed. This appearance is especially presented by old herniæ, an annular depression being found at the site of the original hernial ring.
4. When a transparent spot is visible, especially at the lower part, indicating the presence of the hernial fluid.
5. When the tumour attains a certain size, and yet presents no appearance of an intestinal loop.
6. When a layer of fat, however thin, exists on the surface of the tumour.
7. When the finger placed in the wound is unable to penetrate to the seat of strangulation. In very acute cases there is sometimes a difficulty, which, however, may be overcome with a little perseverance.
8. When the ring is divided from above downwards, the tumour becomes flaccid from the retreat of the intestine into the abdominal cavity; whilst the sac remains outside and presents the appearance of an empty pocket; sometimes, however, the tumour remains without change. In such cases the intestine is strangulated by the neck of the sac and is unable to retreat.
9. When the tumour is devoid of polish, and, notwithstanding the duration of the strangulation, the somewhat pale red of the hernial sac is not replaced by a livid tint.
10. When with the forceps we are still able to raise thin laminae or filaments from the surface of the tumour which can never be done from the serous surface of the intestine.
11. When the tumour offers a form which is neither round, oval, nor oblong. In the latter case the sac always contains an intestinal loop.

The operator has the intestine before him.

1. When the tumour exposed is neither nodulated nor uneven, but presents a spherical form, which is sometimes a little oblong or pyriform in inguinal hernia. The surface of the tumour is moreover uniformly smooth.
2. When the hernial fluid has already escaped.
3. When an intestinal loop can be recognized.
4. When, besides the hernial tumour formed by the intestine, portions of the omentum are also present.
5. When the tumour presents a smooth surface.
6. When the colour is of a lively red or of a darker red than the sac, when it is not acutely inflamed.
7. When the vessels are somewhat transverse, in the envelope of a hernia they are usually more or less longitudinal.

The statement that, when the intestine is exposed, it can be always drawn forwards, is erroneous.

**Ingrowing Hairs from the Tragus resting upon the Membrana Tympani.**—Dr. R. Weir states that a few years ago he noticed that a gentleman of his acquaintance, above sixty years of age, whom he knew to have slight chronic catarrh of his ears, acted in a rather strange manner. He would, in the midst of a walk, or, more frequently, in conversation, suddenly and rapidly shake his head to and fro, inclining the right ear downward at the same time; in fact going through the motion that dogs and other animals do to shake the water or flies off. On asking him what was the matter, he said he felt something moving at times in his ear with a rattling dry noise, especially in eating and yawning, and that it was extremely troublesome to him. He consented finally to let Dr. Weir look into his ear, and it was then seen that several of the long hairs that sprang in abundance from the tragus had passed inward, and their free ends were resting in contact with the membrana tympani of the right side. The offending bodies could be seen to rub against the drum, whenever the jaws were set in motion. There was no visible congestion of the canal or drum. The hairs were easily seized and removed, the attachment to their follicles being very easily overcome—whereupon he experienced immediate relief; though, since then, he has sought assistance several times for a similar trouble, affecting not only the same, but the opposite ear. He was advised to submit to destruction of the hair follicles, or, in lieu of this, epilation, and daily combing outwards the hairs growing in this region. More recently, Dr. Weir states, he met with two similar cases, one in a middle-aged labouring man, and the other, as in the first case, in a man in advanced years. (*Transactions of the American Otological Society*, 1870.)

**Solution of Ammonia in Delirium Tremens.**—The efficacy of ammonia in drunkenness naturally suggests its employment in delirium tremens, which is only a prolonged attack of drunkenness, and it has recently been employed with good effects in heroic doses by Dr. Gouamier. One of his cases was a robust man, forty-five years of age, whose limbs were in a constant state of agitation, with sleeplessness and a sub-delirious state. Dr. Gouamier prescribed an ounce of strong infusion of valerian root, and thirty drops of solution of ammonia, edulcorated with simple syrup, to be taken every two hours; after five doses, sleep supervened, and the agitation of the limbs was effectually cured. (*Gazetta Med. Lomb. et L'Imparziale*, Jan. 1, 1871.)

**Blood-letting in Obstetric Practice.**—Dr. Fordyce Barker has recently read a paper on this subject before the Medical Society of the County of New York, in which he enumerates the various conditions before, during, or after delivery, in which blood-letting has been recommended by authorities, and refers to

those in which he has thought it requisite to bleed. Amongst the latter are those in which there is vertigo and flushing of the face; though, as Andral and Cazeaux long ago showed, these symptoms may be coincident with poverty of blood, but, even in hydræmia, there might be a serous congestion capable of being relieved by venesection. Uterine and renal congestions, the former seen much oftener in feeble women, almost always make their appearance at the menstrual periods, when the woman will complain of tension and swelling of the abdomen, and of weight in the pelvis. If proper measures be not employed to reduce the congestion of the uterus, there may be a little flow of blood from it, and some danger of abortion. This is commonly accompanied by marked vesical irritation. If these symptoms do not readily disappear, Dr. Barker thought bleeding would be the best treatment, following it by chlorate of potash and iron. As regards renal congestion, it would appear that in some cases of cerebral congestion the primary hyperæmia is to be found in the kidneys. This may be seen especially in the albuminuria of pregnancy. He related a case of sudden and severe convulsions, in which he had taken thirty ounces of blood, besides inducing a clear purgation by elaterium, and in which complete recovery occurred. He considered it to be a great mistake to suppose that blood-letting should never be resorted to except in the sthenic condition. Some of the most decided benefits he had seen derived from it had been in cases of patients extremely anæmic. In particular, there was now little occasion for the use of bleeding to overcome causes of delay, as other remedies, warm douches, belladonna, chloroform, were superior, but it was still useful in preventing threatened convulsions and apoplexy. In post-partum inflammatory affections, Dr. Barker stated he had not employed it for many years, believing we were in possession of other safer and equally sure means. Lastly, he thought that in certain rare cases of puerperal mania venesection might be of service. In the discussion which ensued upon the paper, the views of Dr. Barker were thoroughly endorsed by Dr. Peaslee, Dr. Isaac E. Taylor, and Dr. Lente, all practitioners of large and long experience. (*Medical Record*, No. 117, January 16, 1871.)

**The Galvanic Treatment of Sclerodermia.**—Dr. F. Fieber, of Berlin, publishes a case of this disease, occurring in a girl of eleven years of age. Assuming that the cutaneous affection arose primarily from some disorder of the nutrition of the nerves, he galvanized the sympathetic, and effected prompt improvement in the symptoms and a cure of the disease, after eight applications of the remedy. It had lasted eight months. (*Wiener Med. Wochenschrift*, No. 55, 1870.)

**On the Subcutaneous Application of Stimulants.**—Dr. Zuelser, of Berlin, attached to the Reserve of the 5th Army Corps, states he had an opportunity of seeing a large number of cases of typhus during the second period of the present campaign in France (October 30 to December 15). He noticed amongst the patients, and especially amongst those who had had to perform the trying duties of the advanced posts, that a condition of weakness of the heart, with small and irregular pulse, supervened, accompanied by cyanosis and coldness of the extremities. Post-mortem examinations presented a high degree of muscular degeneration of the heart. The above described condition required actively stimulating treatment. The effects produced, however, were so slow when the stimulants were administered in the ordinary method, that the plan suggested itself to his mind of trying the effects of subcutaneous injection. With this object in view, he employed the liquor ammoniaci anisatus, and the spiritus sulphurico-æthereus, which he had already found to act beneficially in cholera. Eulenberg has only adduced a few observations in his well-known work on hypodermic injection in which camphor and liq. ammon. anisatus were thrown in, and the operation was not followed by any remarkable effect. Of the former drug he injected five-sixths of a grain, and of the latter, from five to seven drops. Dr. Zuelser employed much larger doses, injecting from thirty to forty drops of the spiritus sulphurico-æthereus, and from fifteen to twenty drops of ammon. solut. anisat., about one-fourth of the whole being injected into each extremity. The result was extremely satisfactory, and no bad effects were on any occasion observed. The previously small pulse became fuller and stronger. The cardiac contractions were freer and more energetic, so that the shock became distinctly perceptible. On several occasions the cyanosis disappeared after the injection had been once or twice performed, and the threatened collapse vanished, whilst time was afforded for the application of other remedies. Small abscesses occasionally formed at the site of the injections, but these never attained to any troublesome size. (*Berliner Klinische Wochenschrift*, January 2, 1871.)

**Operation of Œsophagotomy.**—Dr. Menzel reports two cases, one successful, the other fatal, of Œsophagotomy, under the care of Professor Billroth. The first case was that of a boy aged eleven, which was the result of drinking some potash lye seven years antecedently. For the two previous days he had been unable to swallow either solid or liquid food. Attempts were made to introduce bougies, but none could be passed through the stricture, the thicker ones being stopped at the commencement of the Œsophagus, the thinner being arrested at the centre of the

tube. As the impossibility of swallowing came on quite suddenly whilst the boy was eating cherries, it was supposed that a stone had become impacted in the lower constriction. The boy was rapidly becoming emaciated, and constantly cried for water. It was determined to perform cesophagotomy. He was placed on the operating table, and a cut two inches in length made along the anterior border of the sterno-mastoid muscle. The wall of the tube was seized, and a thread attached to it for the purpose of fixation. An opening of the length of half an inch was then made into it; a pair of curved forceps were then introduced in the direction of the lower stricture. They at once struck on something hard, and Prof. Billroth immediately extracted the cherry-stone. The patient now awoke from the effect of the chloroform, and immediately called for water, which he drank and swallowed without any escaping from the wound in the neck. In twenty-six days the wound was completely healed without bad results. The second case promised less favourably from the first. The man was 44 years of age; the constriction had first attracted attention on account of the difficulty it occasioned in swallowing at the beginning of last year; but he was taught how to apply the bougies, and was dismissed relieved. In June, however, he returned much worse; he suffered from violent cough, and was much emaciated. A bougie of considerable size could still be passed. The left vocal cord was paralysed; the cancerous nature of the affection became evident, and the operation was determined upon with the object of preserving life but for a short time longer. He died on the following day. (*Wiener Medizinische Wochenschrift*, No. 56, 1870.)

**Application of Electricity in the Treatment of Conjunctivitis granulosa.**—Dr. Rodolfo Rodolfi recommends the method as having been successful in his hands in the treatment of this very obstinate disease. The plan he adopts is to pass through the lids a current of two elements of Bunsen, three and a half inches in height, and about seven inches in circumference. The negative reophore was placed on the conjunctiva of the superior lid, the positive on the temple by means of a sponge dipped in a saturated solution of common salt. The globe of the eye was protected from the current by a thin lamina of ivory. This was applied for a certain time day after day, improvement continuing to take place till after the lapse of a fortnight. The conjunctiva had regained its normal appearance, the photophobia having entirely disappeared. Dr. Rodolfi furnishes drawings of the implements he uses. (*Gazetta Med.-Ital. Lombardia*, No. 2, 1871.)

**Hæmatosine as a Therapeutic Agent.**—Hæmatosine is the colouring matter of the blood of the higher animals, which is

naturally combined with a colourless proteinous substance termed globulin, with which it forms the substance known as hæmatoglobulin. Hæmatosine is allied to albumen, but differs from it in containing iron, which forms about one-tenth of its weight. When dried, it forms a brown powder of metallic appearance, destitute of smell and taste, insoluble in water and pure alcohol, but soluble in acids and alkalies. It may easily be made up into powders, pastilles, jujubes, syrups, &c., and is readily taken by children. It is readily digestible, and in no way interferes with intestinal absorption; and hence its use may be continued as long as it is indicated. It dissolves immediately in the blood, and, by combining with proteinous substances, must form the material of new blood-corpuscles. To its presence in normal blood the absorption of oxygen is due, and by it this gas is carried to all parts of the system. In the ordinary ferruginous preparations it is not certainly known whether they are in the same condition of atomicity as that of the blood, but the iron of hæmatosine must necessarily be so, since it is derived from the blood itself. It is prepared without difficulty. (*Wochenblatt d. K. K. Ges. der A. in Wien*, No. 46, 1870.)

**Subcutaneous Injection of Ergotin in Uterine Affections.**—Lr. V. Swiderski recommends this method of treatment in cases of chronic metritis, displacements of the uterus, and metrorrhagia arising from various causes. He originally employed Bonjean's solution, which has the following composition: Extract secal. corn. aquos. 2·5; sp. vin. rect. et glycerini, ana. 7·5; but the pain occasioned was so great that he changed it for the following formula:—Extract. secal. cornut. aquos. 1·0; sp. vin. rectific. 1·5; aq. destillat. 4·5, glycerini 3·0. A quantity of fluid containing about 1·5 grains of ergot was injected into the uterus on each occasion, and the injections were repeated every second day for a week or more. The effects obtained, especially in cases of metrorrhagia, appear to have been very satisfactory. (*Berliner Klinische Wochenschrift*, No. 50, 1870.)

**Treatment of the Early (congestive) Stage of Skin Diseases.**—Dr. Tilbury Fox states that for years past he has been dissatisfied with arsenic as an internal remedy in the majority of skin affections. Occasionally, no doubt, it acts magically; but in the mass of skin diseases, and in all save those of a scaly nature, it is only after long and tedious courses, and large quantities have been taken, that amelioration, if any, occurs. Hence it now rarely enters into his prescriptions. The action of the metal, so far as the skin is concerned, is upon its vascular supply; it tends to diminish congestion by restoring the tonicity of the vessels. But the researches of pathologists have shown that the starting-point of diseases of the skin is



sometimes in the nerves, sometimes in the cell-elements of the rete, or of the fibro-cellular tissue, or of the gland sacs. In these cases the vascular alteration is a secondary, not a primary condition, and one treatment should be directed to the primary condition. He thinks that it is too customary to employ irritant instead of soothing remedies in the early stage. He enumerates various diseases, as urticaria, acute general psoriasis, erythema of the face and acne, lupus, lichen ruber, and eczema, in all of which it is advisable to employ soothing remedies in the early periods of the affection. A soothing treatment he defines to mean such as prevents congestion and secures the exclusion of air from the diseased part. The access of oxygen is the great accelerator of changes in the inflammatory stages of skin diseases, especially when the cuticle is more or less destroyed or absent. The remedies that most effectually soothe, are baths of various acids, astringents, and powders, and simple non-rancid unguents to which astringents are added. This kind of treatment, especially adapted for the exclusion of air, he very sensibly adds, effects the securing of rest for the skin. He concludes by observing that it constantly happens that soothing remedies fail, where we should expect them to act satisfactorily. In such cases the conditions of the blood should be attended to, and renal or hepatic complications eliminated. (*Journal of Cutaneous Medicine*, December 1870.)

**Remarks on the Rationale of the Action of Arsenic in Cutaneous Diseases.**—Dr. Cleland has found this remedy most useful in cases of eczema and psoriasis in patients of a gouty or rheumatic diathesis; cases of psoriasis in conjunction with uterine affections; chronic inflammatory uterine affection, even although unaccompanied with cutaneous disease; persistent rheumatism, ophthalmia, and cases of lupus and palatal ulceration. He agrees with the late Dr. Begbie in thinking that arsenic is of special value in a certain class of rheumatic cases that are of a somewhat intermediate type between rheumatism and gout, or rheumatic gout, in which there is a strong tendency to lithic deposits in the urine. He refers to M. Lollot's experiments, who concludes, from his observations made on dogs and rabbits, that arsenic exhibits two fundamental properties: first, depression of temperature; secondly, diminution of the urea in the urine. Dr. Cleland is of opinion that the therapeutic effects are due: first, to the arrest of processes of decomposition; and, secondly, to increased nutrition of the epithelial surfaces, evidenced by silvery tongue, plump appearance of the face, and red conjunctiva. (*Ibid.* December 1870.)

**Treatment of Chronic Urticaria.**—Dr. Edward Long Fox refers to the difficulty of tracing the causes of chronic urticaria,

and suggests the disease may be sometimes due to the effect on the vascular system of subacute uterine or ovarian irritations of various kinds. Both in its acute and chronic form it seems to be a morbid condition depending on reflex sensation. It is probable, he thinks, that in seeking to remove the exciting cause of chronic urticaria, we are too often satisfied with confining our attention to the alimentary canal. We may have to treat in the chronic form of the disease a severe neurosis, or at least to recognize in it a manifestation of a nervous diathesis. The difficulty of treatment consists in our ignorance of the cause of the disease, but there is a good deal that may be done in these cases in which with sensitive nervous centres the exciting cause is connected with the pelvic viscera. In such cases arsenic has in his hands proved very useless, but considerable benefit has accrued under the bromides, and especially under a combination of the bromides with iron. But with all cases of chronic urticaria in which an uterine or ovarian exciting cause may be reasonably suspected, he is in the habit of using tepid alkaline baths of some duration ; baths to which common salt, bicarbonate of soda, or carbonate of potash have been added. (*Journal of Cutaneous Medicine*, Dec. 1870.)

## Notes and Queries.

### DEPARTMENT OF ANALYSIS AND NEW INVENTIONS.

**REPORT ON COMMERCIAL SPECIMENS OF BISMUTH SUBNITRATES.**—The amount of oxide of bismuth in the pure subnitrate ( $\text{Bi NO}_3, \text{H}_2\text{O}$ ) amounts to 76·3 per cent. The composition of the salt is, however, very liable to variation. Thus a little more or less washing, or a somewhat higher or lower temperature during precipitation, at once induces alterations, and the amount of oxide of bismuth contained in the salt may thereby be made to vary between 76 and 84 per cent.

No. I. Mr. Cromwell, 6, Bradley Terrace, Wandsworth.

No. II. W. B. Hudson and Son, 27, Haymarket.

No. III. Messrs. Corbyn and Co., 86, New Bond Street.

No. IV. Edward Thomas, 44, Drury Lane.

No. V. H. Bate, 44, Thorne Road, Albert Square, Clapham Road.

No. VI. C. E. Stansmore, 30, Marchmont Street.

The only impurities detected in these samples consisted in traces of chlorides and sulphates, and very minute traces of iron. All were specially examined for arsenic, but no trace of it was found in any of them.

No.	Oxide of Bismuth.	Arsenic.	Chlorides.	Sulphates.
I.	81·33 per cent.	None	Traces	Minute traces
II.	78·51 "	None	None	Traces
III.	79·28 "	None	Traces	Traces
IV.	82·12 "	None	Traces	Traces
V.	81·80 "	None	Strong traces	Slight traces
VI.	82·37 "	None	Very strong traces	Traces

### CORRESPONDENCE.

SEVERAL letters, including a very interesting communication from Dr. Flint, jun., of America, are unavoidably crowded out.

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On the Treatment of Fractures of the Limbs. By Sampson Gamgee, F.R.S. (Edin.), &c. &c.

<sup>1</sup> Any of the foreign works may be procured on application to Messrs. Dulau, of Soho Square, W.C.; or Williams & Norgate, of Henrietta Street, Covent Garden, W.C.

# THE PRACTITIONER.

APRIL, 1871.

## Original Communications.

### ON THE PRINCIPLES OF THERAPEUTICS.

BY JAMES ROSS, M.D.,

*Newchurch, near Manchester.*

It is a standing reproach to the therapeutics of the present day that it has no fixed principles: and this accusation is not only advanced by our opponents, but is acquiesced in by some of the most eminent members of the profession. Very few however, would go the length Dr. Wilks has done in a lecture recently delivered at Guy's Hospital, and reported in the *Lancet* of February 18th and 25th. He tells his class that his method of treating disease is "empirical;" that he does not mean to discuss principles; that our best remedies have come to us "from unknown sources, and were never suggested by theoretic considerations;" and that "the vain attempt to treat a case upon its merits is the grand cause of all the bad therapeutics of the day." His direction to his students for improving upon the bad therapeutics of the day amounts, so far as I can judge, to this: Diagnose the disease and adopt the treatment which experience has proved to be useful for that disease; diagnose ague and label it quinine; diagnose dysentery and label it ipecacuanha. Such appears to me to be Dr. Wilks' system of therapeutics. But instead of criticising this doctrine, the best service I can do

to therapeutics is to show that it is not destitute of principles ; and that some of these principles are so necessary as to be constantly guiding the mind of every medical man in the treatment of every case of disease. I enter upon this subject with greater pleasure, because I agree with Dr. Billing in thinking that, although "many persons of great experience practise moderately well empirically, he who begins upon principle, and then profits by experience, must become a much more skilful practitioner."

Dr. Pereira defines therapeutics as "that branch of medicine which has for its object the treatment of diseases." There are two or three points in this definition which must be discussed before we proceed further.

At the threshold we are met with the question, What is disease? Health and disease are correlative terms, neither of which has any meaning without the other; but to define them is a very difficult matter. It is my object to avoid as much as possible all highly speculative questions. I shall, therefore, content myself with defining health negatively as the absence of disease; and disease as the presence of one or more of the diseased states or processes enumerated in the "Nomenclature of Disease," each of which may be defined by a description of the co-existence of certain symptoms, and of the uniformities of the succession of these symptoms. Before all the principles of therapeutics can be reviewed health must be defined positively; but in the meantime the negative definition is sufficient for the discussion of the principles which I mean to notice at present.

But before any meaning can be attached to Dr. Pereira's definition of therapeutics, what is meant by treatment must be ascertained. It has already been remarked that health and disease are correlates; and the great object of treatment is to convert the latter into the former. This is what has been called the cure of disease. But a cure of disease is not always attainable, and in this case our object is to render the disease as tolerable as possible to the individual; hence treatment comprises the alleviation as well as the cure of disease. But a great part of our treatment of any case is directed to ward off further disease. I may instance what is called the antiseptic treatment, which is entirely a preventive measure, and yet it is regarded as coming

within the scope of therapeutics ; therefore the prevention of further disease as well as the alleviation and cure of present disease must be included in the definition of treatment. But the prevention of disease is only another mode of expressing the preservation of health, which is generally regarded as a separate branch of study, and called Hygiene. But in discussing principles it is better to break through the trammels of these artificial barriers, and to attend to the actions of the body as a whole—to the conditions which maintain a healthy body in health and to those which ward off disease, as well as to the conditions which tend to restore a diseased body to health. It is only in this manner that we can arrive at a comprehensive view of therapeutics, since the simple and obvious principles which are carried out by any ordinary individual in maintaining his body in health are brought into requisition on treating every case of disease. It is also better not to be trammelled by the still more artificial distinction of surgical and medical remedies, since the same principles of treatment obtain in both. It is surely not necessary to remind my readers that therapeutics embraces a wider field than the simple administration of drugs.

There is one other point in Dr. Pereira's definition which I wish to notice ; that is, that it is the definition of an art and not of a science. An art proposes a certain end which it is desirable to attain—and it is founded upon the union of several sciences for the attainment of that end. This must be constantly borne in mind when discussing the principles of therapeutics. These are not scientific laws, but principles whereby we are enabled to converge a wide scientific knowledge to a certain point for the attainment of a particular end. This statement will find ample justification and illustration in the following remarks ; and I believe that the neglect of this distinction has been the cause of much greater error in therapeutics than the modern attempt to treat every case upon its merits.

Almost every moment of our conscious existence we are following two great principles—the one is to obtain the conditions which are necessary for the maintenance of life, and in a general way of healthy life ; the other is to avoid or remove the conditions which produce disease.

I have said that there are two principles which we constantly

observe, but in reality they are only two different ways of expressing one and the same principle. A disease may be caused by the absence of a condition, such as oxygen; as well as by the presence of another, such as arsenic. Therefore the two principles already noticed may be expressed as one; namely, to avoid or remove the cause of disease. Hence in the case of the oxygen and arsenic we should remove the absence of one, and the presence of the other. It will, however, be less confusing if this principle is expressed as two, corresponding to the correlative couple—health and disease.

The first classification of human knowledge, whether of the individual or of the race, is founded upon these principles: The individual calls what in his experience gives him pleasure, good; and what gives him pain, bad; and this classification does in a very rude way correspond to the agents which tend to maintain and those which tend to destroy life. In this way a very primitive experience will enable man, and even other sensitive animals, to avoid the more obvious destructives to life, such as fire and flood, and to seek the more necessary conditions for the maintenance of health. But this first rude experience is not sufficient for the maintenance of health in the complicated circumstances by which individuals are surrounded in modern civilized societies, and there are secret enemies to health which baffle all the powers even of modern science to detect. Thus it is that the more perfect our knowledge of the organism becomes, and of the forces which tend to maintain health along with those which tend to destroy it, the more certain becomes our application of these principles: but the principles are the same, however imperfectly they may be carried out.

I shall now endeavour by a few examples to illustrate the principles already laid down, with a special view of showing their application in Therapeutics. The first one which I shall notice is that which enjoins us to apply the conditions necessary for the maintenance of health.

When an individual is in a state of asphyxia from the absence of oxygen in the surrounding medium, the great object of treatment is to supply oxygen. The best method of attaining the object in view will depend upon the circumstances of the case. These may be so simple that the opening of a door or of a win-



dow may suffice ; or they may be so complicated as to tax the ingenuity, not of the physician, but of the engineer, as when a man is enclosed in a coal-pit. But however complicated the surrounding circumstances may be, the grand ruling principle of treatment in such a case is to supply the individual with one of the conditions necessary for the maintenance of healthy existence ; and all the other knowledge necessary for the carrying out of the treatment is merely subordinate and accessory to this principle. But I may carry this illustration still further. The barrier to the admission of air may not be in the surrounding circumstances, but in the organism, such as in acute diseases of the larynx. In such cases the principle under consideration must always play a very important part in guiding us to a proper treatment. But the treatment which must be adopted will depend upon considerations involving a wide knowledge of physical science, anatomy, physiology, pathology, and the action of drugs. If, however, we conclude to let in more air immediately to the lungs, and even at the risk of inducing further disease to perform tracheotomy, then this principle becomes our paramount guide for the treatment of the case, although other principles come into requisition in carrying out the details of the treatment ; while, on the other hand, if tracheotomy is not performed, but some other treatment adopted, the principle under consideration is placed in a subordinate position to other principles.

I might illustrate the application of this principle in cases where food is given to the starved, and drink to the thirsty ; indeed, the entire field of dietetics affords ample illustrations of its application, but the limits of this paper will not allow me to enter upon the subject. I may, however, mention sea scurvy ; a disease in all probability caused by a deficiency of the mineral and probably some other elements of the food, and which is undoubtedly cured by the administration of fresh meat and vegetables. Transfusion after great loss of blood is another good example of the direct application of this principle. But when the absence of the condition necessary to health is not in the surrounding medium, but in the organism, it is not always possible to supply it. Hence the medical man is driven to make good the deficiency in the best manner possible ; therefore

operations for hare-lip, talicotian operations, artificial legs, and the other mechanical contrivances by which the surgeon endeavours to supply the deficiencies of the organism, come within the scope of this principle.

But not only must we endeavour to supply the organism with the circumstances and materials necessary for the maintenance of health; but we must also prevent the too free escape of certain materials and agents from the body. Hence hæmostatics, astringents, and even the clothes by which we prevent the too free escape of heat from the body, are instances of the application of the principle.

The principle is also applicable to the treatment of many cases of local diseases. In syncope the main symptoms are caused by an insufficient supply of blood to the brain, and our primary treatment consists in placing the patient in such a position as will facilitate a greater flow to the brain of the fluid necessary to its nutrition. In other cases of local disease the nervous action is deficient, and we endeavour by various means to supply it. I have no doubt that this principle has a much wider application in medicine than has been here assigned to it, and that future research will only tend to extend it; but I must pass on to the consideration of the correlative principle which enjoins us to avoid or remove every condition known to cause disease.

Before applying this principle in practice, we must know the causes of disease; but it is the duty of the pathologist, and not of the therapist, to investigate the etiology of disease. Of course the therapist is also a pathologist, just as a geologist is generally a biologist; but as a therapist, his duty is to accept his knowledge of the etiology of disease from the pathologist, and to draw up such rules and precepts as will enable him the more readily to apply that knowledge to practice. These rules must be both general and special—general when applicable to the race, and special when applicable only to certain individuals, since it is well known that what may cause a disease in one individual may not affect another at all. It may be objected that all the rules which will enable a man to avoid disease belong to the department of Hygiene, and not to Therapeutics; but I think that every one will admit that all the

precautions which are taken lest a disease when once established should be aggravated come within the scope of Therapeutics. It has already been noticed that the antiseptic treatment of wounds is entirely a preventive measure, and the general measures which are enforced in the treatment of acute disease may be regarded in the same light. Rest, quietness, fresh air, liquid nourishment, and so on, are enjoined with the intention of not aggravating the disease, and of allowing what are called the powers of nature to restore the patient to health. But this principle has a still wider application in the treatment of disease. When a thorn penetrates the finger we immediately withdraw it, but with the intention, not of directly curing the wound it has already caused, but of preventing further irritation of the wound by its presence. All our applications for destroying the itch, insect and vegetable fungi, in skin diseases and intestinal worms, and for removing intestinal obstructions, calculi, and strictures, are illustrations of the practical application of this principle; and so also do all the contrivances by which the accoucheur facilitates the birth of a child. When the uterine contractions once begin, if the child is retained beyond a certain time, it becomes a source of disease to the mother, and it is as such that endeavours are made to remove it. I may be reminded that the accoucheur may interfere in the interests of the child; but even then it is only another application of the same principle. Almost all the operative proceedings of the surgeon come under the same category. An abscess is opened, a limb amputated, a dislocation reduced, a tumour excised, not because they are effects of certain causes, but because they are causes of certain effects which are injurious to the organism.

But not only do the main operative proceedings of the surgeon and of the accoucheur come within the scope of this principle, but it has a very wide application in medicine. Diseases are generally a series of changes; and even when we are not able to affect the cause of a disease as a whole, it is often possible to modify a link in the centre of the chain, and thus to arrest, in whole or in part, the further effects of that link. Considered as a cause, rheumatism will serve as a good illustration of this application of the principle. It is proved that in rheumatic fever there is an excess of acid in the blood, and there is strong

evidence to show that the disease of the joints is caused by the presence of this acid. The disease then consists of the antecedent series of changes which has caused the accumulation of this acid in the blood, and of the series of changes which the presence of the acid produces when considered as a cause. It is possible to neutralize this acid by an alkali, and thus to modify all the effects which would otherwise be produced by it. We also favour excretion of the acid in various ways; but future researches may prove that the accumulation of the acid in the blood was primarily caused by an arrest of excretion; and if this should prove to be the case, we are, when favouring excretion, modifying, not the middle, but the primary link in the chain of succession; but in either event our treatment comes within the scope of the principle under consideration. It may be objected that our knowledge of rheumatism is hypothetical, and that after researches may prove this hypothesis to be erroneous; but it must be remembered that I am only using this hypothesis for the purposes of illustration, and not as premises upon which to found any argument; and so long as any one accepts this hypothesis as true, he will be guided in his treatment by the principle which we are now considering; and if future researches should oblige the pathologist to change or modify his theory of the disease, it is then for the therapist to consider how far he must change or modify the principles of his treatment,—in short, every advance in the sciences necessitates a corresponding advance in the arts founded upon those sciences.

But to proceed with the illustration of the great principle that it is the physician's duty to remove the cause of disease, and with the special application of this principle to modify or withdraw an intermediate link in a chain of succession. In typhoid fever there is a well-known lesion of the intestinal glands. As a consequence of this lesion a foetid, decomposing, ammoniated fluid is poured into the canal. This fluid is re-absorbed, and thus gives rise to serious and alarming symptoms, especially of the nervous system. But by administering hydrochloric acid the ammonia is neutralized, and further decomposition in great measure prevented, so that the serious effects of the re-absorption of the intestinal fluid are in great measure

arrested. Similarly, when the membrane of diphtheria begins to separate, it is possible to arrest very serious symptoms by preventing the re-absorption of decomposing discharges. Various means adopted by the accoucheur after parturition, such as syringing the uterus and vagina, are illustrations of the application of this principle.

This principle is also brought into requisition in correcting derangements of local nutrition. I may instance the administration of opium to allay the stitch of pleurisy: and indeed, with some exceptions which need not be specified here, this is the principle which guides us in the administration of narcotics and anæsthetics. By these means we are enabled to suspend the action of the nervous system, in whole or in part, where the presence of that action would very much aggravate the disease.

Similarly we may be able to lessen the force and amount of the flow of blood to a particular part, and in this manner also to modify favourably the course of a disease. As a good example of this application of the principle, I may notice the surgical operation recently performed of tying the femoral artery for the cure of acute inflammation of the knee-joint.

Venesection has been largely employed in the cure of disease, but by this means the quality of the blood is deteriorated, as well as the force of the circulation diminished. If there is such a morbid process as excess of local nutrition, it is possible that it has been occasionally checked by venesection. The objections to its use are not so much theoretical as practical. I should imagine that in the instance of tying the femoral for inflammation of the knee-joint, and of general blood-letting for the cure of a disease of local nutrition, the remedies are in most cases worse than the disease; in short, they appear to be cases of the old adage of "jumping from the frying-pan into the fire." And this leads me to notice that, in applying the principle, care must be taken not to cause another disease equally violent with the first one. An agent may cure one disease, but at the same time induce another disease worse than the one it has overcome. A case came under my notice where a man took inadvertently a poisonous dose of arsenic, and amidst the vomiting and purging which ensued he parted with many yards of tapeworm. He was under my

observation for about nine months after, and had no return of his troublesome ailment, although he has been annoyed with it for years. Notwithstanding the success of this treatment, no one, I imagine, would think of administering a poisonous dose of arsenic in a similar case.

I must now conclude. The few remarks I have made do not pretend to be a systematic or exhaustive review of the principles of therapeutics. I have simply jotted down a few illustrations of their practical application, hoping that other minds may be directed to the subject, so that therapeutics may be placed upon a securer foundation than empiricism. The principles we have been considering regard health as a state of more or less stable equilibrium. Hence, according to these, it is the duty of the medical man to introduce all the forces necessary for maintaining the body in that state, and to ward off all the forces which tend to overthrow that equilibrium; therefore these principles may be called the principles of medical statics. But health may be regarded as a moving equilibrium, and disease as a certain deviation from a typical course; hence there is another great branch of therapeutics which may be termed medical dynamics, which has principles of its own, and upon which, with the Editor's sanction, I will offer a few remarks in a future number of the *Practitioner*.

## THE SEQUELÆ OF SMALL-POX AS AFFECTING THE EYE.

BY W. SPENCER WATSON, F.R.C.S.

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THE present epidemic has brought under my notice a considerable number of cases of superficial conjunctivitis, and a few of severe keratitis, associated with the lowered vitality following small-pox. The form of keratitis, known as onyx, seems to be the most common result of post-variolous ophthalmia, and leaves generally great permanent impairment of sight, in consequence of the density of the cicatrix on the cornea which results, this being of course more serious in proportion as it occupies the central region and overlaps the pupillary area. But, in some cases, not only is the transparency of the cornea impaired, but adhesions of the iris to the corneal leucoma are left, which lead to later complications of much severity, and lasting perhaps for months after the acute attack has passed off.

Such a case was the following, which occurred in October 1869.

*CASE I.—Chronic Kerato-Iritis of one and a half years' duration after the attack of Small-pox—Glaucomatous Tension—Iridectomy—Relief and Improvement of Sight.*

A man, aged 26, who had never been vaccinated, had small-pox one year and nine months before I saw him in October 1869. At the latter date he was suffering from chronic keratoiritis of the right eye, which was associated with a dense leucoma of the cornea. He had suffered from inflammation of the eye ever since the attack of small-pox, but latterly this had been accompanied by great pain of the eyeball and circumorbital region. The centre and lower half of the cornea were occupied

by a dense white and somewhat bulging cicatrix, with vessels ramifying over it, and the tension of the eyeball was increased.

Iridectomy upwards and inwards gave speedy relief to all the symptoms and considerable improvement in vision, so that six weeks after the operation the patient could read No. 16 of Jaeger's test-types. He was free from pain, and the chronic congestion of the eyeball had quite disappeared. The remarkable point about this case was the long persistence of the inflammatory state of the eye affected, and the increase of tension accompanying it.

CASE II.—*Leucoma and anterior Synechia after Small-pox—  
Iridectomy—Improvement of Vision.*

J. D., a boy of eight, in feeble health, and deeply marked by small-pox, was attacked by the latter three years ago, and the eye was subsequently much inflamed.

The right eye three years after had a central dense opacity quite overlapping the pupil, and the lower half or two-thirds of this was of a dark purplish colour, from a portion of prolapsed iris which there showed itself, and which was closely adherent and incorporated with the cicatrix tissue around, but which had no tendency to staphylomatous protrusion. The iris was also adherent at several points above the prolapsed portion, and vision was limited to the mere perception of large moving objects.

On April 8th, bichloride of methylene having been first administered by Dr. Wharton Hood, a small iridectomy was made towards the nasal side of the cornea.

The result of the operation was all that could be wished; and on the 1st of June the boy could read No. 1 of Jaeger's test-types.

On inquiry as to whether this boy had been vaccinated, I was answered at first in the negative, but afterwards in a doubtful affirmative.

CASE III.—*Leucoma and Cataract following Small-pox—  
Iridectomy and Extraction of Cataract—Very prolonged  
Convalescence, but improved Sight.*

S. A. B., a sickly-looking young woman, a dressmaker, was sent to me by Dr. A. Cresswell, of South Norwood, in January



1870. She had had small-pox in 1866; she had been vaccinated. Soon after the attack of small-pox she had had the right eye inflamed, and since then had gone through five operations, the first being an iridectomy, and the subsequent ones for the removal of cataract. There was still a gauzy membrane across the pupil which interfered somewhat with vision, but deeper-seated opacities made it evident that the whole eyeball had been involved in the post-variolaous inflammation. No further operation therefore was employed; but cod-liver oil and tonics, with the use of coloured glasses, were prescribed. Sight did not materially improve, but the chronic congestion and photophobia with which the eye was affected soon subsided, and ultimately disappeared, synchronously with the improvement of the general health.

CASE IV.—*Large vascular Ulcer of the Cornea treated by the Seton in the Temple.*

Rosina T——, aged ten years, has never been vaccinated. Her four sisters, who *had* been vaccinated, did *not* take the small-pox when she had it three months ago. Her brother, a seaman, had small-pox when he was four years of age; he had *not* been vaccinated. A brother-in-law had small-pox three months ago—*i.e.* at the same time as Rosina T——, and died of it. He was said to have been “stone-blind three days before he died.” Rosina T—— caught the small-pox from her brother-in-law, and her right eye has been inflamed ever since. When first seen by me on 2d February she was marked by recent pits, and her right cornea was affected with a large and irritable vascular ulcer. An opaque greyish-white patch occupied the upper and outer part of the cornea, entirely covering the pupil, and being connected with the conjunctiva below by a broad band of blood-vessels. At the line of junction of this vascular tract with the opaque patch on the cornea, a semicircular excavation marked the ulcerating process. The sclerotic all round the cornea was highly vascular, and the cornea slightly dull at the parts adjacent to the ulcer. There was very slight intolerance of light, and no pain. Atropized oil was used for three weeks, as drops, and as an external application to the eyelids and brow and temple, but with no perceptible improvement in the symptoms. Tonics at

the same time were given, and the eye kept excluded from light. The ulcer, however, spread, the opacity increased in extent and the photophobia in intensity, and on February 23 a seton in the right temple was passed.

*March 2d.*—The ulcer is healing and the vascular bundle has much diminished in size and depth of colour. The surrounding cornea is clearer, and the photophobia diminished.

This case is still under treatment, and it cannot therefore be predicted what amount of sight will be left after the healing of the ulcer which may be confidently anticipated; but the case illustrates well the *protracted* nature of the keratitis following small-pox; and the family history is extremely interesting as a proof of the danger of neglecting vaccination and of the protective qualities of the operation, should any further proof be wanting of so well-established a fact in therapeutics.

## ON THE ACTION OF ACONITUM NAPELLUS.

BY CHARLES DOUGLAS PHILLIPS, M.D.

THIS plant of ancient medicinal celebrity, and of which De Candolle admits as many as twenty-nine varieties, belongs to the Ranunculaceæ, and contains one of the most virulent and active poisons known.

The ancients, who were very imperfectly acquainted with mineral poisons, considered aconite to be the most deadly thing in organic nature, and modern experience almost justifies their opinion. Every portion of the plant is more or less virulent; even the odour or effluvia thrown out from it when in full bloom operate hurtfully upon certain constitutions. Sometimes it produces loss of sight for a day or two; in other instances it has been known to cause fainting fits, and analogous conditions. The juice of the leaves or stem entering a wound in the hand affects the whole system; pains are produced in the hand itself, and in the arm: to these succeed cardialgia, a sense of suffocation, and, not uncommonly, syncope, with great mental anxiety. But energetic as is the action of the juice of the stem and leaves, it is in the tuberous roots that the most powerful part of the deadly virus exists.

The general effects of taking either aconite or its alkaloid base, aconitia, which was first discovered by Pallas about the year 1770, follow with great quickness.

If a leaf be chewed a sensation of numbness is produced upon the lips and tongue, and this effect is perceived even after the lapse of many hours. A poisonous quantity received into the stomach causes pungent heat in the palate and fauces, accompanied with a sensation of burning even in the stomach itself; a painful numbness which pervades the limbs to the fingers and toes, and a general tremor of the whole body, severe vomiting

attended with pain in the abdomen, and intermittent, weak, and irregular action of the heart, soon follow. There is an approach to suffocation, with great anxiety, restlessness, and vertigo. The limbs usually become cold, clammy, and irregularly pulseless, and death soon follows.

Aconite is one of that class of poisons which act through the medium of the nervous system, and which can produce death without being actually absorbed. Very soon after taking aconite, or its base, the depressing influence on the heart and vessels is perceived. Neither convulsions, spasms, stupor, nor delirium can be reckoned on as certain, though in several recorded cases one or more of these phenomena were present. Dr. Thompson states that the first results are acrid and burning sensations, accompanied by profuse salivation. He states that if an extract be administered without the greatest caution, it acts first upon the stomach, and then upon the nervous system, producing vomiting, hypercatharsis, vertigo, cold sweats, delirium, and convulsions, which terminate in death. The same authority states that aconite placed upon the eyelids causes a flow of tears, but no sensation of heat; also, that if the powdered leaves be sprinkled upon an ulcer, neither heat nor pain is caused.

This poison, thus invested with such tragic characters, has, however, been reduced to so manageable a condition as to have become a most powerful and valuable therapeutic agent in some of the most troublesome and dangerous diseases to which the human frame is subject. Baron Storck was the first to draw our attention to its value in therapeutics. He published a little volume upon three or four of the principal vegetable poisons, aconite included, in the year 1762. According to the Baron's account, aconite is narcotic, diuretic, and diaphoretic; he administered it in intermittent fever, also in chronic rheumatism, gout, exostosis, paralysis, and scirrhus, and relates many instances of the success which attended its exhibition in each of these complaints. Being well acquainted with the potency of the drug, he recommends small doses at first, which must be only very gradually increased if necessary. Storck's observations soon led to the employment of aconite in various other diseases; in many of which it was found useful, especially in amaurosis, scrofula, &c. In consequence, however, of the strength of the

medicine, and the uncertainty of its action, alarming symptoms have occasionally been produced, and hence on the part of some practitioners there has been a distrust of this most valuable agent.

I find aconite is always indicated in the early stage of simple inflammatory fevers, where as yet but little organic change has taken place, as in the early stage of pneumonia, and most acute congestions. It should be given in all inflammations of serous membranes, before the exudation has passed the plastic stage, especially in pleurisy, peritonitis, &c. When administered early after the invasion of the disease, it quickly lessens the frequency of the heart's action, calming and subduing this, while at the same time it moistens and often bathes the skin with profuse perspiration; it thus allays the fever, and prevents the spread of any congestion which may have already taken place. Aconite does not necessarily remove the exudation, but it prevents the further development of the evil.

When aconite is given in the early stages of inflammatory fever, it not only lowers the frequency of the heart's action, but brings the temperature to its normal standard, and, having accomplished this, it ceases to be of much further use. I have before me nine recorded cases of pneumonia in the first stage, several of them implicating the pleura more or less. The subjects of all these were between twenty and sixty-two years of age. The pulse varied from 110° to 140°, and the temperature from 102° to 105 $\frac{3}{4}$ °. All the attacks were ushered in by rigors, followed by preternatural heat of the body, short quick breathing, dry hot skin, flushed face, headache, thirst and exhaustion; also short dry cough, with more or less pain or uneasiness in the affected lung. The examination showed slight dulness over the congested part, with fine crepitation. We are all aware that in some of the most favourable cases of pneumonia treated without medicine, the fever subsides on the third or fourth day; but far more frequently, and even though the usual remedies may be given, it lasts from eight to ten days. The nine cases just mentioned are not selected, but occurred consecutively. In none of them did the fever last longer than six days, and in five of them it left in about forty-eight hours, reckoning from the rigors; and in all these

cases, in from three to six days after the temperature had fallen to 99°, or below it, the lungs became quite natural. In none of these did the pulse fall to the normal standard without the temperature also falling at least to 99°; but in several of them the pulse kept high, and the temperature sank to below 99°, making it very probable that aconite had done its required work. I treated eleven other cases of pneumonia, all of which had passed into the second, or consolidated stage, before I saw them. In these I gave aconite a fair trial, and in none could I perceive any effect in removing the consolidation. At the circumference of the solidified lung there is generally a tendency to the congestion spreading; this aconite will control and remove, but it has no power over the actually solidified part comparable with certain other drugs.

Aconite is valuable in tonsilitis and ordinary sore-throat. It relieves those irritable tickling throat coughs so often met with in throat and lung affections, and is also useful to plethoric people suffering from asthma, accompanied with a short dry cough, an anxious look, a sense of great oppression, often amounting to suffocation, and a full strong pulse. I have often used it with the best effect in croup, hæmoptysis, and epistaxis; also in coryza and acute catarrh. If, in rheumatic fever, this medicine is used from the commencement, the heart is seldom affected, and the patient suffers much less from pain and swelling in the joints, while the duration of the fever is considerably shortened. I am thus convinced that aconite is of very positive value in assuaging and curtailing the burning pain and fever of this distressing disease. It is rare to meet with permanent organic disease resulting from rheumatic fever, when treated from its commencement with aconite; and I fully believe that this complaint is materially shortened and benefited by its persistent use. The extract of aconite applied as a plaster to the joints, in the form usually adopted for belladonna, though weaker than this last, is unquestionably very useful in rheumatic affections.

In simple apoplexy, especially when occurring to stout, plethoric persons, where the vessels of the brain are congested but not ruptured, accompanied with a full strong pulse, hot dry skin, flushed and turgid face, and a more or less comatose state, aconite

is the best remedy. There is no doubt that aconite has a most depressing, and in some instances an almost paralysing, effect upon the heart, and should be avoided in every case of apoplexy where there is a tendency to syncope, a pale face, a feeble and perhaps intermittent pulse, with a cold and clammy skin; but should a decided reaction take place, and we find it necessary to reduce the power of the heart, and to diminish the force of the circulation through the brain, then we must have recourse to aconite, as certain to render us the most speedy and effective aid.

Aconite is of great use in those cases of palpitation of the heart depending upon simple cardiac hypertrophy of the left ventricle; but in hypertrophy of the left side of the heart with diseased valves, admitting of regurgitation, aconite is dangerous.

There are cases met with in our everyday practice of sudden and abrupt suppression of the catamenia, where the flow appears at its usual time, and in its normal character, but is arrested by a chill. In these cases there is no remedy which will act so promptly as aconite in removing the discomfort produced, and in quickly causing the menses to reappear; especially if the body is kept warm so as to favour any tendency to perspiration. One drop, as a dose every half-hour or every hour, is generally quite sufficient to bring on the flow within from four to eight hours from the first administration, and if given within the first few hours after the suspension has occurred.

The great majority of maternal deaths during childbed are caused by that fearful malady puerperal fever. This is mostly accompanied by peritonitis, and usually comes on about the second to the fifth day, and is most frequently ushered in by severe rigors, followed by high fever. When we consider that three thousand mothers die annually in childbed in England, we may well inquire what remedy is most likely to be of service in arresting such mortality. I have recorded five cases of puerperal peritonitis, all ushered in by rigors, &c. Two of the sufferers were attacked on the third day after delivery, and three on the second day. With two of them the pulse rose to 140, and the temperature to  $105\frac{1}{2}^{\circ}$  and  $105\frac{3}{4}^{\circ}$ . In the other three cases the pulse rose to about  $120^{\circ}$  to  $135^{\circ}$ , and the temperature to  $103\frac{1}{4}^{\circ}$  to  $104\frac{3}{4}^{\circ}$ . From the time of the rigors until the temperature fell to below  $99^{\circ}$ , I gave nothing but aconite, and an occasional dose of castor-

oil, and my five patients recovered. The aconite was given in drop doses, every one or two hours steadily through the day and night. Repeated hot poultices or laudanum fomentations were used all through. If we have recourse to aconite immediately after the rigors set in, it will assert its beneficial power over venesection, antimony, mercury, or any of the ordinary methods of treatment. Sir James Simpson pointed out the analogy between this disease and surgical fever, which is equally deadly, and I am satisfied from extensive experience that were aconite given quickly and repeatedly in the early stage of this last disease, during the chill or soon after, the mortality would be comparatively trifling. In puerperal mania, accompanied with high fever, restlessness, head symptoms, and scanty secretion of milk, I have frequently used aconite with speedy and marked success; and here again to secure full benefit, the medicine must be administered soon after the chill has occurred. I am fully persuaded that in puerperal convulsions it is the best drug we possess, although I have on one or two occasions found it to fail, and have then had recourse to the lancet followed by opium, with the desired effect. In these cases of puerperal fever, mania, or convulsions, and surgical fever, one or two drops of the tincture of aconite may be given every ten or fifteen minutes, for the first hour; and afterwards every half-hour, or hour, according to the severity of the symptoms. As the pulse falls the interval between the doses should be prolonged; but if the fever should not abate, and the temperature should not fall within a reasonable time from commencing the medicine, it would be almost useless to continue it.

I have now before me in my diary thirteen cases of erysipelas, or acute inflammation of the skin, implicating, with some of them, the subcutaneous areolar tissue, and in all attended with high fever. The temperature, which was taken in all of the thirteen cases, varied from 102° to 105°. In all these the only remedy used was aconite, with an occasional dose of castor-oil, and they recovered within five days of being seized. They were all of a purely sthenic kind, and I do not believe that there is any virtue in aconite for the low, or asthenic, description equally common in our experience. The mortality from erysipelas in England is very great (2,000 annually); and from my own observation I believe that if aconite were used early in this disease



and persevered with, we should not have more than one death for every five that we have to encounter. Aconite only needs to be fairly tried in order to be extensively adopted in the treatment of acute erysipelas.

In dysentery and dysenteric diarrhoea, when the patient suffers from high fever, pains in the abdomen of a griping and cutting character, preceding a frequent inclination to stool, aconite will reduce the fever and remove the cutting pains. Aconite will occasionally cure constipation in a plethoric person, with a dry skin and a feverish tendency. It is also of use in diarrhoea caused by a chill, especially in children.

Aconite is of great use in those cases of retention of urine with spasmodic stricture, which have been brought about by taking a chill. It is also a most valuable remedy in worm fever, as an intermediate with santonin.

In typhus and typhoid fever aconite is of little use. It reduces neither the fever, nor the frequency of the pulse. I have tried it on many occasions, and have always found it more injurious than otherwise. It seldom reduces the temperature in scarlet fever or measles, before the eruption comes out, although it moistens the skin, and certainly helps the emergence and development of the eruption when due. In four cases of measles which I attended within the last thirteen months aconite reduced the pulsation in each instance to about  $72^{\circ}$  in the early part of the second day of the eruption; this state of the pulse continued during the eruptive stage, but the temperature kept throughout from  $101\frac{1}{4}^{\circ}$  to  $103^{\circ}$ .

In conclusion, in all diseases for which aconite is prescribed I recommend that it be given every half-hour to every one, two, or three hours, in single or two drop doses, according to the severity of the symptoms. In very acute cases it may be given for the first hour every fifteen minutes. Aconite should never be given in any vehicle except water. Let it not be imagined that I throw doubt on any other drugs in these diseases. My intention in making these observations is simply to help the advancement of therapeutics. I feel confident that we shall never stop until we make therapeutics a science based on as firm a foundation of observed facts as chemistry or astronomy.

# CLINICAL REMARKS ON THE TREATMENT OF COMPOUND FRACTURES OF THE EXTREMITIES.

BY EBEN WATSON, A.M. AND M.D.,

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IN this communication I shall first state the chief clinical features of *all* the cases of compound fracture of the extremities received into my ward during the year 1870, and then I shall explain the plan of treatment which I have followed in them, and which has proved itself in my hands abundantly successful. I shall, however, exclude from this account many compound fractures of the bones of the hand, which were treated in the same way and with unvarying success, as out-patients, by my house-surgeons during the year.

The more important cases requiring treatment in the hospital may be tabulated as follows:—

## COMPOUND FRACTURES OF THE UPPER EXTREMITY.

	CASES.	RESULTS.	
		Amputation.	Cure.
Forearm . . . . .	2	1	1
Humerus . . . . .	3	1	2

## LOWER EXTREMITY.

	CASES.	RESULTS.	
		Amputation.	Cure.
Leg . . . . .	11	2	9
Femur . . . . .	1	0	1

The total number of cases treated was seventeen. There were no deaths, only four amputations, and thirteen cures.

CASE I.—A. McS——, aged 50, admitted November 18th, 1870. A barrel of beer had fallen on his right hand and forearm, frac-

turing both its bones, with extensive laceration and bruising of the soft parts. Severe as the injury evidently was, yet I determined to attempt to save the limb. The success of this attempt depended on maintaining the vitality of the hand, and to that object our efforts were directed; but they were in vain. In two days the hand was quite livid, and amputation was accordingly performed just below the elbow. The man made a perfect recovery, and was dismissed on 17th December.

CASE II.—M. B——, aged 46, was admitted on 16th April, 1870, with compound fracture of the ulna, caused by a blow with a poker. The injury had been sustained a week before admission, and foul suppuration had already commenced in the wound. It was, however, well washed and syringed out with the spirituous solution of carbolic acid, and dressed with the same. Two straight forearm splints were then applied. All went on well, and the woman was dismissed cured on 6th June.

CASE III.—J. T——, aged 45, was admitted February 4th, 1870, with compound fracture of the humerus about two inches above the condyles. The wound was small, and situated on the inner aspect of the arm. It was washed and syringed out with the carbolic acid solution, and dressed according to my usual plan. A rectangular splint, with a small piece of junk in front, was applied to keep the fragments steady. The wound healed readily without a drop of pus, and the patient was dismissed cured at the end of six weeks.

CASE IV.—M. C——, aged 47, was admitted on March 11th, with severe compound fracture of the left humerus, caused by a cart-wheel passing over the arm. The wound was two inches long, and situated about the middle of the inner side of the arm. There had been considerable hæmorrhage, and the parts were much bruised and undermined. The same treatment as in the previous cases was followed, but the limb became gangrenous, and was amputated on the fourth day after the accident. The stump healed without suppuration, and the patient was dismissed cured in the end of April.

CASE V.—M. T——, aged 18, was admitted on 23rd June, with compound fracture of the left humerus. The fracture was about the middle of the bone, and the soft parts were much lacerated. The spirituous solution of carbolic acid was applied,

and the limb duly splinted. Some of the soft parts sloughed, and then granulation took place. The patient was dismissed cured on 13th August.

CASE VI.—E. S——, aged 28, was admitted on March 28th, with compound fracture of the tibia, just above the malleolus. The wound was of considerable size. It was dressed with the spirituous solution, and two straight leg-splints were applied. No suppuration occurred, and the patient was dismissed cured.

CASE VII.—E. A——, aged 33, was admitted on 8th February, with compound fracture of both bones of left leg. The wound was not large, and healed at once. The patient made a good recovery, and as speedily as if the fracture had been simple from the first.

CASE VIII.—Mrs. M. L——, aged 52, was admitted on March 28th, with very severe compound fracture of both bones of the left leg. The fracture was about three inches above the ankle, and there was extensive injury to the surrounding tissues. So severe was the injury, that I recommended immediate amputation, but the patient did not consent till the fourth day, when I operated below the knee. A week after the operation the patient had a paralytic seizure, in which she lost the power of the right side; nevertheless the stump healed rapidly, and she was dismissed well.

CASE IX.—H. M——, aged 28, was admitted on 8th June, with compound fracture of both bones of left leg. The wound was small and healed readily without suppuration, and the patient was dismissed cured.

CASE X.—J. D——, aged 40, was admitted on April 17th, with compound fracture of both bones of the leg, about the middle. All went on well, and the patient was dismissed cured on the 30th July.

CASE XI.—F. K——, aged 31, was admitted on 2nd July, with compound fracture of both bones of leg. It was three days since the injury was received. The wound was very large, and situated about the middle of the leg, directly over the seat of the fracture. Hardly any suppuration occurred after admission, and the patient was dismissed cured on the 21st of September.

CASE XII.—J. O'S——, aged 21, was admitted on 27th

August, with compound fracture of both bones of left leg, caused by the passage of a cart-wheel over it. The wound was large and nearly in the middle of the leg. It healed without any suppuration, and the patient was dismissed cured on the 10th of November.

CASE XIII.—M. C——, aged 30, was admitted on 10th October with compound fracture of both bones of the leg—wound about eight inches long and widely gaping. Nevertheless it healed without suppuration, and the patient was dismissed cured on the 16th December.

CASE XIV.—N. McS——, aged 21, was admitted on 20th November, with compound comminuted fracture of right leg, caused by a railway waggon passing over it. It required amputation, which was performed next morning, and the stump healed rapidly. Patient was dismissed well on 16th December.

CASE XV.—J. E——, aged 15, was admitted on 28th December, with compound fracture of both bones of right leg—wound over inner ankle and about two inches long. Nevertheless it was quite healed in eight days, and the patient was dismissed cured on 16th February, 1871.

CASE XVI.—W. S——, aged 36, was admitted on April 4th, 1870, with compound fracture of both bones of leg, caused by a box falling on limb. Some days had elapsed between the injury and the admission of patient, so that suppuration and putrefaction had already commenced; but they were arrested by the usual dressings, healthy action supervened, and patient was dismissed cured on 19th August.

CASE XVII.—J. C——, aged 34, was admitted on 3rd March, with compound fracture of the left femur, caused by a piece of iron falling on the limb. The wound, which was about two inches long and gaping widely, was situated on the inside of the thigh, a little above the knee, and the bone was fractured at the same place. I extracted a loose fragment of bone fully an inch and a half in length through the wound. The usual treatment and dressings were employed, and Liston's splint was applied. The wound healed without suppuration, but a small superficial abscess formed in the neighbourhood. This did not interrupt the favourable progress of the case, and the patient was dismissed cured on the 24th of May. My house-surgeon has con-

scientifically noted in the journal that there was *half an inch* of shortening of the limb.

A bird's-eye view of these cases is given in the table, next page.

I may remark, on the terms used in the said table, that "perfect cure" means that the limb was as good and useful as before; and that "good recovery" in the amputation cases means that it was rapid, and that the stump was sound and serviceable.

I shall now state very shortly the chief points of the method of treatment pursued in the preceding cases; and, first, I remark that, after having tried all the methods of applying carbolic acid to wounds, including its solution in oil, and Mr. Lister's plaster, I give the preference to the following—viz., one part of crystallized carbolic acid, dissolved in eighteen parts of water, with the addition of two parts of methylated spirit. I find that this solution cleans and soothes and encourages granulation. It almost entirely prevents suppuration, but I believe it is not favourable to the process of cicatrization: and therefore, when the granulations are on the level of the skin, I interpose a piece of common oil-silk between the dressing and the healing surface. In this way the action of the carbolic acid is sufficiently maintained, and the skinning of the raw surface is hastened.

It may be as well here to confess that I have never been able to give in my adherence to Mr. Lister's explanation of the beneficial action of carbolic acid. I think it is far from being proved that the cause of suppuration or irritation in a wound lies in the growth of germs from the atmosphere, and I cannot, therefore, suppose that the destruction of these germs is the *rationale* of the good derived from carbolated dressings. I think that good may be explained on grounds which are more easily proved; such as (1) the sedative action of solution of carbolic acid when of proper strength; (2) its power of coagulating the albumen of the discharge, and thus of restraining the latter as well as protecting the denuded surface beneath; and (3) the protection given by carbolic acid from the oxidizing influence of the air—for carbolic acid is volatile, and it consists mainly of carbon. It thus presents a layer of highly carbonized air to the oxygen of the atmosphere, on which the latter may act without destroying

No.	AGE.	SEAT OF FRACTURE.	TREATMENT.	RESULT.		REMARKS.
				Amputation.	Cure.	
I.	50	Forearm.	Spirituous solution of carbolic acid.	Performed on third day.	Perfect.	Great bruising and death of hand. Good recovery.
II.	46	Ulna.	The same, and straight splints.			
III.	45	Humerus.	The same, with rectangular splint.		Perfect.	
IV.	47	Humerus.	The same.	Performed on fourth day.		Gangrene of forearm. Good recovery.
V.	18	Humerus	The same.		Perfect.	
VI.	28	Tibia.	The same, with straight leg-splints.		Perfect.	
VII.	33	Tibia and fibula.	The same.		Perfect.	
VIII.	52	Tibia and fibula.	The same.	Performed on fourth day.		Very severe injury to soft parts. Good recovery.
IX.	28	Tibia and fibula.	The same.		Perfect.	
X.	40	Tibia and fibula.	The same.		Perfect.	
XI.	31	Tibia and fibula.	The same.		Perfect.	
XII.	21	Tibia and fibula.	The same.		Perfect.	
XIII.	39	Tibia and fibula.	The same.		Perfect.	
XIV.	21	Tibia and fibula.	None.			
XV.	15	Tibia and fibula.	Spirituous solution of carbolic acid, with straight leg-splints.	Performed at once.	Perfect.	This case was too severe to permit of saving the limb. Good recovery.
XVI.	36	Tibia and fibula	The same.		Perfect.	
XVII.	34	Femur.	The spirituous solution and Liston's thigh-splint.		Perfect.	

the carbonaceous matter of the tissues. But whether this be so or not, the benefit arising from these dressings is quite indubitable; and I say so after an experience of more than four years' duration, both in hospital and private practice.

When a compound fracture is received into my wards, the bleeding vessels, if there are any, are secured by torsion or by catgut ligatures. The wound is then thoroughly washed and syringed out with the full strength of the spirituous solution of carbolic acid described above, and a compress of lint, wet with the same solution and protected with an oil-silk or gutta-percha cover, is applied over the wound. The limb is put in position, and duly bandaged and splinted. I recommend that for the first week the dressings should be renewed once every day. In this way the surgeon has the satisfaction of seeing from day to day the state of the wound, and of keeping it thoroughly clean. The carbolic acid being volatile, I believe that it is not right to trust long to its action without renewal, and this may be done when there are sufficient assistants without any disturbance of the fracture and without any exposure of the wound. I always arrange that an assistant plays upon the wound with a gentle stream of the carbolated solution from a syringe held above the wound until it can be covered with fresh dressings.

In conclusion, I give it as the result of my experience that no interference with the bones in a compound fracture should be attempted unless perfectly loose fragments present themselves so as to be easily extracted. Rather than interfere with the bones in such cases, I should be contented with not quite complete reduction of them into their places. I have several times seen large portions of the fractured ends of bone denuded of periosteum, and not thoroughly reduced, become in due time covered over with granulations and healthily skinned. Even if necrosis occurs in such a case, it is always slight in extent and the immediate forerunner of the most satisfactory result.

It will be observed from the notes of cases previously given that the residence of the patients in hospital was comparatively short, and that no mention is made of constitutional disturbance or secondary fever. The truth is that there is no such thing under the carbolic acid treatment. When the patient has recovered from the shock of his accident, his state and progress



are little, if at all, different from those which present themselves in cases of simple fracture. There is hardly any suppuration and no suppurative fever, and the only secondary occurrences which take place are those that have been caused by the primary injury. Hence, for example, there may be death of parts more or less extensive from bruising or from laceration of important blood-vessels, and this is now the chief cause of secondary amputations, as my cases well illustrate.

The old rules for determining upon this procedure must now be abandoned. One needs not now to wait for days before adopting it. The lesion soon becomes apparent, before either suppuration or putrefaction commences, and the surgeon may at once amputate the cold or livid limb. Again, in other cases, I believe also from the effects of bruising, though to a more limited extent, abscesses occur in the injured limb. These may occasion much uneasiness to the patient, and perhaps some trouble to the surgeon in regard to the dressings and splints, but their ultimate influence on the result is seldom, if ever, injurious.

## A CRITIQUE OF DR. WILKS'S THERAPEUTICS.

BY THE EDITOR.

### PART II.

IN our first notice of Dr. Wilks's lecture we may possibly have somewhat over-estimated the extent of his opposition to rational therapeutics. At least, in the concluding portion of his discourse, he deprecates the notion that he objects on principle to rational explanations of treatment; only, says he, we have not really the requisite information to guide us to sound conclusions; and therefore, whatever may be the case at some future day, for the present it is better that we should content ourselves with the modest functions of empiric physicians.

Now, for our own part, we believe we may safely say that we are under no delusions leading us to excessive confidence in therapeutic theories. But we must none the less express our conviction that, without the constant aid of theoretic reasoning, no advance can be made in the practice of our art. And, what is still more to the purpose, we shall maintain that it is impossible for any practitioner to avoid the use of theory even in the every-day application of remedies; and that in fact the very men who most value themselves on a strictly "practical" conduct of the treatment of disease are no less addicted to theory than their fellows.

Let us endeavour to picture to ourselves the state of mind of a practitioner who should form and religiously adhere to the purpose of never administering remedies on theory. He is to rely, says Dr. Wilks, on the results of experience empirically obtained. But *whose* experience is it that shall guide him? We will suppose that the patient immediately before him is suffering from rheumatic pericarditis. Has the experience of the profes-

sion laid down, with reasonable approach to unanimity, the remedies by which he should treat this disease? On the contrary, there are authorities, equally credited by large and influential followings, that will respectively give him diametrically opposite counsels. One author, physician to a large London hospital, and a man of large practice, tells him that acute pericarditis can never be safely treated without mercury; that bleeding is often, and that leeches or cupping are almost always, necessary. Another very eminent hospital physician states that these measures are entirely superfluous, if not actively baneful; indeed the majority of metropolitan physicians would now probably reject them. Between these conflicting statements our believer in "experience" would be seriously puzzled; he would feel that the question would have to be decided after all on his *own* experience; and in fact this is precisely what is happening to scores of practitioners every day. But does anyone seriously think that such practitioners do, in such circumstances, depend entirely for their decision on their own experience as their memory recalls it to them? We certainly do not believe this to be the case. On the contrary, all that we have ever seen, even of routine work, among those who are absorbed in the business of active general practice, convinces us that these men, unless very unusually devoid of intelligence, invariably supplement the teachings of their own practical observation by a critical judgment of the theories on which rival plans of treatment are based. A medical man whose practice may, at most, afford him some two or three examples of pericarditis in each year, would hardly, on the mere strength of that experience, presume to decide off-hand on the comparative merits of the plans of treatment respectively proposed by Dr. A. and Dr. B., who, as he well knows, must each of them see at least fifty or sixty cases annually. Assuredly he will be irresistibly led to reason upon the probable *modus operandi* of each of the various remedies between which he has to choose; and if he finally elects to bleed, he will do so because he considers that the chief mischief in pericarditis is caused by a violence of cardiac action that bleeding can best subdue; if he leeches, it will be because he thinks that he can thereby reduce a local plethora, and so avert or limit effusion; if he administers mercury, he will do so on the strength of a

general theory that mercury has the power to remove plastic exudations. And conversely, if he rejects any or all of these remedies, it will be because he doubts or disbelieves their power to act in the manner indicated, or considers that the effect, if produced, would be only momentary and unimportant for good, while the incidental evils of the treatment would endure.

Dr. Wilks has himself cited some examples of what he considers the antithesis of the well-grounded empiric, and the ill-grounded theoretic, treatment of disease, and it is not a little instructive to examine these *pièces justificatives*. For instance, he mentions the case of a young lady with acute mania who was treated, first by an experienced old, and then by a theoretic young, practitioner. The former gentleman "placed her in a room with an attendant, administered aperients, and did all that the art admittedly allows." The clever young doctor, who was called in to supersede the first, "commenced to treat the case *secundum artem*; first by shaving the head and applying a blister all over it, and secondly, by administering large doses of morphia. The girl was driven raving mad by the method. 'But surely,' said the doctor, 'such remedies were suggested—the counter-irritant for the excited brain, and the opium to procure sleep.'" Now upon this case two observations are immediately pertinent: first, that the "clever" young doctor must have been an extravagant ignoramus; next, that the "experienced" medical man appears to have been a theorist no less than his rival.

It is unfair to put forward a man who treats acute mania with blisters and large doses of morphia as a type of those who seek for rational modes of treatment; and this for a plain reason, which it is strange Dr. Wilks should have overlooked.

The physician who attempts to base his treatment upon a consideration of the appropriateness of particular remedies to particular pathological conditions, will certainly, unless devoid of common sense, take care at least that he founds his argument upon such pathological data, and such information respecting the action of medicines on the organism, as the latest and best researches afford. But if there be one fact plainly made out by modern pathology, it is that the condition in acute mania is one in which explosive emission of force coincides with innutrition

of the brain ; and that the only useful remedies are those which either directly (like food) or indirectly (like quietude and sleep) assist the reparative process, and thus help to restore the stable equilibrium. On no rational theory could it be supposed that a painful irritation like that of a blister all over the scalp could do anything but hinder the return to the calm of healthy brain-equilibrium ; its employment could only be justified by the utterly exploded notion of "drawing the disease away from the affected part." And, on the other hand, physiologico-therapeutic research has abundantly demonstrated that large or narcotic doses of morphia, so far from being theoretically appropriate to the treatment of acute delirium, are (by every analogy) likely to aggravate it, by still further lowering the total brain-power. Narcotic doses of morphia will as probably aggravate mania in the human subject as they will produce epileptiform convulsion in the dog, or tetanus in the frog. On the other hand, when we turn to the treatment adopted by the man of "experience" in the case cited, we find unmistakable evidence that *he* was acting on theory, at least in one particular. Why did he give *purgatives* to a young lady suffering from acute mania, except on the theory—at least as absurd as that of the younger doctor—that he could somehow draw the madness out of her brain and eliminate it *per rectum* ? Dr. Wilks may protest that the older practitioner acted from no such motives ; but we can only say that our own experience has furnished plenty of instances where patients suffering from acute head-mischief have been purged as a matter of course, and for the very purpose we have indicated. The results are often most disastrous ; yet the very practitioners who habitually adopt this plan of treatment are precisely those who would be most certain to applaud to the echo Dr. Wilks's proposition, that "experience" is the only safe guide to treatment.

Another instance, indeed a large group of instances, that Dr. Wilks quotes as illustrative of the evil results of theorising, is afforded by the tendency, which he declares to be most widely spread, to treat nearly every disease with ammonia and brandy, on account of the debility that the patient exhibits. It will be hardly necessary to tell the reader of the *Practitioner* that with the practice of blind and indiscriminate stimulation we have no sympathy whatever. In the first place, as we have so often

remarked, the supposed stimulation frequently is, in real effect, *narcotism*, from the dose of alcohol being too large or altogether untimely. And almost more serious evils have arisen from the customary but perfectly unwarranted assumption that the indications for alcohol and for ammonia are always the same; the truth being that, in not a few instances, when the one is useful the other is either useless or distinctly pernicious. But surely Dr. Wilks is not justified in citing this kind of malpraxis as an illustration of the evil effects of the tendency to theorise in medicine. On the contrary, it represents a mere state of pause and hesitation in the minds of a certain considerable portion of the profession, who have lost their old therapeutic faith, and as yet have not grasped the principles of modern scientific research. Dr. Wilks has no doubt read "*Sartor Resartus*," and remembers the picture of Teufelsdröck's intellectual as well as emotional chaos after the collapse of his love affair with Blumine. Does he remember, also, the comico-pathetic way in which the despairing young philosopher clings to certain homely bits of knowledge of which he is really assured—as, for instance, that a loaded pistol makes him more than the physical equal of the biggest unarmed ruffian who might want to rob or murder him? Well, the medical generation that saw the downfall of Broussais' doctrines was scarcely less profoundly shattered in its scientific faith, and scarcely less ready to be thankful for small mercies in the way of certainties, or what looked like them. This much seemed clear: the old belief that red faces and rapid pulses meant sthenic inflammation was hopelessly gone; had, in fact, never been anything but a delusive inference, perfectly unwarranted by the facts on which it was supposed to rest. It was *not* right, then, to bleed and to salivate merely because these symptoms existed. *Du lieber Himmel!* What guide could now avail the unhappy man who had believed in these things as infallible indices to a safe and comfortably orthodox line of practice? In these deplorable circumstances one ray of light appeared to shine in the darkness. The new school of pathologists had convinced our inquiring practitioner, much against his will, that the very symptoms which he had been taught to rely upon as evidence of a morbid *excess* of vital power and action, were, in truth, inseparably bound up with vital *debility*.

They (the pathologists) never meant to say that this was the whole story. But of their pupils, drowning in the flood of scepticism that poured over them when the bulwarks of Broussaisism were swept away, many clutched at the doctrine of universal debility as a saving plank. For if debility were a universal characteristic of disease, at least (so they flattered themselves) there was no mistake about the fact that in brandy, ammonia, &c., we possessed decidedly powerful stimulant or reviving remedies. For a time they followed what they thought were Todd's ideas without inquiry into the deeper questions as to treatment which were opened by the destruction of the old beliefs. Far from theorising profoundly, they did not even stop to inquire whether their newly-prized "stimulants" were universally stimulant in their action, or needed to be carefully timed and dosed to produce their intended action. It was enough for them that these various agents had acquired an undisputed reputation as revivers of depressed vital power; they must therefore be appropriate to conditions of debility wherever these were found; and as debility seemed to be the most pressing danger in an immense number of diseases, so it came to pass that ammonia and brandy took something like the position of universal remedies. It is easy to laugh at this now—easy, even, to lash oneself into a state of moral indignation about it, and yet there is really not so very much reason either for ridicule or reprobation. It was stupid enough, but not nearly so stupid as the old ideas about removing "corrupt" blood by venesection, and not one-tenth part so dangerously mischievous as was the old custom of alternately starving and physicking young growing children ("to purify and cool their blood," forsooth!), or of salivating every pneumonic patient and every poor rheumatic wretch who might show the faintest tendency to heart affection. These horrors seem quite forgotten by those who, like Dr. Wilks, now rail to their hearts' content at the indiscriminate use of brandy and ammonia, which was, after all, the not unnatural rebound from a system infinitely more absurd and more disastrous. But we repeat, the error, be it great or small, of indiscriminate stimulation, is not the error of a *theorising* tendency; on the contrary, it is the error of men who have neglected to frame any reasonable approach to a theory about the physio-

logical effects which their remedies will produce. The indiscriminate stimulator is a man who trusts in mere *words*, not in fully-formed theories.

The inconclusiveness of these illustrative cases adduced by Dr. Wilks leads us to consider a more serious aspect of the view of therapeutics which he propounds to us than any that has yet been mentioned. It is not merely that he asks us to return to the sole guidance of the *experientia fallax*, nor that the true, though probably unconscious, tendency of his teaching leads directly to the re-establishment of the metaphysical entity of disease. We lament, even more decidedly, that it ignores what seems to us the most valuable teachings of modern physiology. And here, in order to make ourselves clearly understood, it is necessary to take a brief chronological retrospect. Physiology, or so much of it as can be said to have had any beneficial influence on the progress of practical medicine, is almost entirely the product of the present century, and, for the most part, of the last thirty years. We, of course, do not forget that solitary discoveries in this science, which have since borne rich fruit, were made long before this period: we need only recall the labours of Harvey on the Circulation, of Willis on the Nervous System, of Haller on Organic Irritability, to remind ourselves vividly of the fact. But we say, without fear of contradiction, that these splendid researches were productive of at least as much evil as good so long as they remained isolated. The Harveian doctrine, for example (we of course except its undoubtedly beneficial influence in practical surgery), was no true guide, but an *ignis fatuus*, till it was supplemented by the modern observations, with instruments of precision, on the forces of the circulation; by the discovery of the vaso-motor nerves, of the influence of the vagus and sympathetic on the heart, &c. But, above all, we ask the reader to remember that the whole problem of the development, nutrition, metamorphoses of the tissues, and of the relation of food and of the imponderable forces to the organism, was in hopeless confusion till the great series of comparative anatomists, chemists, and physicists, who may be practically said to coincide with the present century, made the new physiology possible. One would suppose, then, that all theories as to the action of remedies which



originated in earlier times must have been utterly untrustworthy and misleading; and indeed, that the old ideas must have survived, far into the present century, with sufficient vitality to fatally influence all systems of treatment; since scientific ideas only slowly penetrate the mass of a busy working profession. And this unquestionably was the case. One of the most striking characteristics of pre-scientific physiology was the sharp separation it made between the phenomena of healthy life and those of disease; it was a system under which no similarity was admitted between the influences that support ordinary vital functions and those which the physician employs to remedy disease. And to this day the curse of routine practice is the tendency to treat questions of diet, of temperature and moisture of the atmosphere, of hot and cold baths, and all similar matters, as if they stood upon a different footing from the action of drugs. The proof of this stares us in the face from the pages of every work on *Materia Medica* and *Therapeutics* in existence. No attempt has been made by any of the authors of these works to frame a classification of therapeutics in which the material and dynamic agencies (food and the imponderable forces), which are constantly pouring their influence into the organism, should receive their proper recognition as medicinal agents upon equal terms with drugs. Yet who that reflects upon the matter can doubt that, until this deplorable error is rectified, the progress of therapeutics must be halting and insecure? Well, it is our gravest charge against the view of therapeutics presented by Dr. Wilks, that it directly fosters the ancient delusion that, in treatment, drugs are one thing, and diet another and quite different thing. We dare say that Dr. Wilks would not admit this. But we ask any one who has had opportunities of observing the practice of that class of men whose early education or whose natural turn of mind, has led them to a special trust in "experience," whether these men are not, notoriously, the staunchest upholders of an active and all-pervading interference, by drugs, in the treatment of diseases. It is impossible to make such practitioners understand that quite as marked changes may often be produced in pyrexia, for instance, by giving a more effectively nutritious diet, or by the employment of cold baths, as by the most powerful medicines in the *Pharmacopœia*. Yet every one who has made

the experiment knows perfectly well that such is the case; or, rather, he knows that (with the single and partial exception of quinine) no drug that ever came out of chemist's shop has so frequently a direct influence upon what are certainly *the sources* of danger in pyrexial diseases, viz. the excessive temperature of the blood, the excess of tissue-waste in vital organs like the nervous centres and the heart, and the wasteful expenditure of force in the production of masses of new cells, fibres, &c., whose lowness of organization is directly proportionate to their inordinate multiplication.

The mention of the cold-bathing treatment of fevers, which the Germans have revived with such remarkable success in these latter years, leads us to remark that Dr. Wilks has here again misconceived the position of those whom he calls theorists, altogether. He thinks the cold-bathing treatment is one which no theorist could have expected to prove successful; meaning, I suppose, that theorists would either pronounce it, *à priori*, too lowering, or would dread internal congestions, &c., as a result. We maintain, on the contrary, that the true theorist, that is the thoughtful reasoner, would have been perfectly prepared for the possible success of such treatment. Your practical man of experience, whose only rule is to label a disease with one name and a drug with another, and then pitch the latter at the former, as one might pitch a stone with a catapult, would have been horrified at the idea of treating a fever with a *repelling* instead of an *eliminating* application to the skin. "The combined experience of ages," he would exclaim,<sup>1</sup> "forbids it." Whereas the thoughtful student of medical theory would say: "It is quite possible that the super-heating of the blood is the cause of much delirium, and even of a certain number of deaths, by its directly depressing effect on the nervous centres: and all this superfluous heat, once generated, is certainly mere waste force: why not, then, remove it by a method which does not involve the abstraction of any material elements from the body?" It is obvious that there would be nothing inconsistent in believing that good might be done in this way, and at the same time believing in the necessity of supplying oxidizable

<sup>1</sup> *Did* so exclaim, in fact, when Currie tried to introduce the practice, and entirely declined to have anything to do with it.

nutriment to save the tissues from being consumed in the fire of the fever. There is no more contradiction between the two things than there is in washing away spilt blood from a man's face, and giving him food, to make fresh blood with, directly afterwards.

In drawing these already too lengthy remarks to a close, we would sum up, in a few conclusions, the general results of our consideration of Dr. Wilks's therapeutic doctrines.

1. It is not true that our knowledge of the action of remedies is only empiric ; still less so that in practice we do, or ever can, employ them without the aid of theory.

2. All the theories of the action of remedies which were formed in the pre-scientific period of physiology were necessarily misleading, and the only maxims of value surviving from those times were empiric discoveries ; such as sulphur for itch, quinine for intermittents, chalybeates for anæmia, &c.

3. Either the physician will (consciously or unconsciously) supplement his experience with the totally erroneous theories of the past, or he must and will endeavour to frame theories for his guidance which are in accordance with the improved physiology and pathology of his own day.

4. It should therefore be the endeavour of every intelligent physician to connect his treatment of disease with the best theories respecting diseases and remedies which the science of the day affords. Failing this, he will inevitably, in spite of himself, base his practice on those exploded theories of the past, of which he will probably have forgotten the origin and history.

Lastly, it is scarcely necessary to say that the fragmentary remarks which have now been offered make no attempt at a full discussion of the questions suggested by Dr. Wilks's lecture ; they merely indicate the outline of an argument capable of far greater elaboration, which is impossible in this place. But we confidently believe that they do propound insurmountable objections to the reception of Dr. Wilks's views.

## Reviews.

*A Treatise on Gout, Rheumatism, and the Allied Affections.* By PETER HOOD, M.D. 8vo. pp. 417. London: Churchill, 1871.

DR. Hood makes out a fair case, in the preface to this work, for the appearance of a treatise intended to deal with the diseases mentioned in its title from the point of view of the experienced practitioner rather than of the more theoretically trained pathologist. In the course of an extensive London practice continued for many years, he has had larger opportunities than fall to the share of most medical men of studying gout and rheumatism, and he considers, quite rightly we think, that the knowledge he has acquired is of a kind that the profession ought not to ignore. It is an old question, and one that is just now attracting renewed attention, whether theory or experience forms the best guide to treatment; but the truth is, that both these sources of information are not merely desirable, but must be employed, whether we will or no. And we have no hesitation in saying that the clinical history of gout is told by Dr. Hood with much truthfulness, and with a number of those touches of nature that can only be put in by one who has studied carefully from the life. His remarks on the general management of the health of persons who possess the gouty predispositions are excellent, and the account he gives of various troublesome complications of gout have that sort of *vraisemblance* which convinces us that his knowledge is genuinely practical.

The most serious proposition in this book is the author's manifesto against colchicum; and this, though we cannot fully agree with it, is undoubtedly deserving of very serious attention. Dr. Hood says, in effect, that colchicum, although possessing an undoubted power of giving momentary relief, is, on the whole, a delusion and a snare. In this he is of course not absolutely novel, but he expressly supports this and other therapeutic doctrines by an argument which it is difficult to meet. He claims for himself the advantage in observation, that he has had the same patients, their families, and connections under his hands, in numerous instances, for a very long series of years: and he thus claims to know their medical history in an unbroken and continuous manner, which is impossible either to a younger practitioner or

to one who is only consulted once or twice about a case. And he pronounces very decidedly the conviction that colchicum, though it relieves at the moment, debilitates afterwards, and predisposes to renewal of the attack. We believe there is much truth in what he says: though for our part we cannot but suspect that these strictures rather apply to the effect of excessive and too long continued doses than to the judicious and economical employment of the medicine. In our own experience we have been equally struck, on the one hand with the benefits of colchicum when sparingly employed and limited to the first part of the acute period of true gout, and its unmistakably bad effects when continued in a careless and perfunctory manner. And we certainly altogether protest against its employment in rheumatism: it is in that disease that we have more particularly seen it produce those disastrously depressing effects upon the nervous system and the heart to which Dr. Hood refers.

It is almost needless to say that though this book honestly professes to be mainly a record of experience, its author turns out to have a theory of his own, as indeed every practitioner has, unless he is a man of no intelligence. Dr. Hood criticises with fair temper and candour the theories as to gouty pathology which have been propounded by Gairdner, Garrod, Bence Jones, &c., and rejects all these in favour of the belief that the main cause of the gouty diathesis is faulty function of the liver. We cannot honestly say that we follow him here, or that we think that he has made out his case; but it is due to him to say that he candidly examines the recent evidence about the non-action of mercurials upon the liver, which must be supposed to tell against some of the arguments for his theory. He is quite clear that mercurials, and particularly calomel, do frequently benefit the gouty patient in far more than an accidental manner, and suggests that the removal of "torpidity" of the liver, which the older practitioners were accustomed to believe was the secret of the great relief to general *malaise* so often produced by a dose of calomel, was, in reality, simply the resolution of spasm of the gall-ducts, whereby an over-distended gall-bladder, which had mechanically embarrassed the whole function of the liver, was allowed to empty itself into the bowel.

We do not accept this hepatic theory of gout: but at the same time we should carefully guard ourselves against denying that calomel may occasionally do good in gout, both as a prophylactic and as a remedy in the paroxysm. The truth is that, much as the action of mercury has been talked about, we are only on the threshold of anything that could be called scientific inquiry about it. To prove this it is enough to mention that though mercury has the most powerful and obvious affinities with the nervous system, and moreover with certain very well-defined

and limited portions of that system, scarcely an attempt has been made to elucidate that portion of its action upon which, nevertheless, it is infinitely probable that the whole question of its influence over the digestive organs turns. It may be perfectly true that calomel wonderfully benefits some gouty patients; and that the phenomena of improvement include striking evidences of relief to the abdominal organs: and yet the liver may have nothing to do with it, but only the abdominal ganglionic system. In fact, we cannot conclude our notice of this useful and practical book without a mild protest against the tyranny of the liver. On the whole, we have come to the conclusion that that organ, by its imposing size, and the aristocratic exclusiveness with which it retreats from its abdominal associates under cover of the ribs, has got itself regarded with exaggerated feelings of respect and awe; and that the day is not far distant when the delusion will explode, and the tyrant will be finally dethroned from his commanding eminence.

*The Treatment of Surgical Inflammations by a new Method, which greatly shortens their duration.* By FURNEAUX JORDAN, F.R.C.S. Eng., Surgeon to the Queen's Hospital, &c. &c. London: Churchill, 1870.

THIS is an original and remarkable work, and if we are unable to perceive that the author has established the position which he maintains, we nevertheless admit freely that he is entitled to a respectful hearing. The object of his treatise is to show that all surgical inflammations are really capable of being treated on a uniform plan; and that we may, with the greatest advantage, substitute for the multifarious modes of treatment recommended by the text-book an extremely small group of remedies. Mr. Jordan starts from the assumption that inflammation, in whatever tissue or organ it appears, is substantially the same thing; that is to say, it presents an invariable sequence of principal phenomena which we may fairly deem to be essential. He considers that for the development of an inflammation it is always necessary (1) that there should be space for enlargement; (2) that there should be an increased quantity of blood in the part; (3) that there should be mechanical or physiological movement of the part; (4) that there should be no inflammation near it. The corollary to this proposition is, that if we can (*a*) apply graduated pressure to the part, (*b*) diminish its blood, (*c*) enforce rest, and (*d*) set up an inflammation of another part, we shall arrest the inflammation.

By far the most important part of the author's system of treatment is the extraordinary development which he gives to the employment of so-called counter-irritation: whether he is

right or wrong, at least he certainly advocates a perfectly new method of applying the remedy. He proposes to attack *every* surgical inflammation by irritation of the neighbouring (not the opposite) skin upon a scale which is decidedly more extensive than most surgeons would adopt. For instance, looking at the diagrams that accompany his treatise, we find him treating cellulitis of the leg with the application of iodine or arg. nit. to the whole circumference of the lower half of the thigh and of the knee-joint, and the whole circumference of the ankle and the foot as far as the toes. Again, carbuncle of the back of the neck is treated by a similar application covering the whole of the "neck" (as much as is displayed in ladies' fashionable evening dresses), with the exception of the swelling itself. And the author speaks, unhesitatingly, of the infallible success of this plan. Either it cuts short the inflammation at once, or, in the smaller number of cases where this does not happen, it greatly limits and hastens the suppurative process, and produces rapid healing after discharge of the pus.

We confess that we find it difficult to criticise Mr. Jordan's statements about counter-irritation, although there can be no doubt of the good faith with which they are advanced, nor of the author's ability as a surgeon. He records a large number of cases (133) of the most various kinds of surgical inflammation, and the results are often apparently striking enough to bear out his own enthusiastic estimate of the value of the treatment; but we cannot help remarking that the clinical narrative are in most cases very brief, so as scarcely to admit of critical appreciation. We have been at the pains to read carefully every one of the cases, and with all possible impartiality we find that of upwards of 130 in which counter-irritation is spoken of as having produced distinct benefit, we have marked more than one-third as furnishing, to our judgment, not the slightest evidence that such was the case. And it must be observed that among these we do not reckon a considerable number as to which we are far more doubtful than Mr. Jordan of the influence of counter-irritation but have given him the benefit of our uncertainty. Still, there undoubtedly remains a large body of evidence in favour of the method, and it is interesting to observe the class of diseases among which the large number of decided successes were obtained. It is quite plain that this was among inflammations of the urethra and its appendages; gonorrhœa and its complications having frequently been strikingly benefited. Next to these it would appear that the best effects were produced in diffuse cellular skin-inflammation, in certain varieties of carbuncle, and in cases of chronic glandular enlargement and induration. We must say that, as regards joint and bone affections, Mr. Jordan's evidence seems much weaker: in the parts of his book which

refer to these we have marked case after case in which the record conveys not the smallest conviction to our mind.

Leaving the actual results obtained, however, let us inquire what is the nature of the so-called "counter-irritations." It consists in the application of such substances as the linimentum iodi, or strong solution of nitrate of silver, or (in cases when a more rapid and decided effect was required) of acetum lyttæ, made with the glacial acid. These applications are made in divers ways: sometimes (in the milder forms) they cover half or two-thirds of a limb, avoiding only the inflamed part; sometimes they are applied as a broad zone round the seat of the disease; but the mode of application which Mr. Jordan especially affects is by painting broad stripes on the skin over the main vessel nearest the affected place; *e.g.* over the femoral artery, where the mischief is gonorrhœa, orchitis, or inflamed bubo. But, granting for a moment that the results were unmistakable, we must remark that Mr. Jordan's suggested explanation is not merely unsatisfactory, but inconsistent to the extent of impossibility. If the influence of the counter-irritant be in any way connected with the great vessels over which he applies it, how does it happen that the same kind of effect is produced by irritation over the femorals in inflamed bubo, and irritation over the brachial artery in inflamed breast? To our mind it seems quite plain that if any importance is really to be attached to irritation in longitudinal stripes upon the limbs, it must be because a strong impression is produced upon sensory nerves running in such situations, and a reflex effect is produced, through the cord, upon the vaso-motor nerves of the inflamed part.

It is impossible, however, for us to dwell any longer on the very interesting topics started in this book. We certainly are not prepared to admit that Mr. Jordan has by any means made out such a case for his method as he evidently believes; but he deserves very great credit for the perseverance with which he has applied it: and it may be that upon more extended trial its merits will be more decidedly established. We regret, however, to observe, from some of Mr. Jordan's observations on the action of purgatives in brain disease, that he assumes the truth of some of the wildest theories of "derivation" that ever entered the medical mind.



## Clinic of the Month.

### The Use of the Écraseur for removal of Nævoid Growths.

—Mr. James West, of Birmingham, observes that he has had long experience of the advantages of the écraseur for the removal of vascular and pendulous tumours, having frequently by its means effected the removal of hæmorrhoids, uterine polypi, &c., with perfect success; but he had not employed it for the treatment of nævi, having generally been able to cure them by means of the ligature, the chloride of zinc paste, or the injection of the perchloride of iron, until he met with a case in which, the ligature failing entirely, he was induced to try the écraseur, and as this answered perfectly he has again employed it on many occasions; but he by no means considers that it should replace all the other methods that have hitherto been used. On the contrary, each case must be treated on its own merits. Thus there are certain cases in which the establishment of adhesive inflammation, and the consequent obliteration of the vessels supplying them by the injection of perchloride of iron, by vaccination, or the introduction of heated wires into them, may be advantageously employed. But this principle cannot be carried out in many nævi of the face, as a large dense cicatrix is thereby produced which is often very unsightly. The simple application of collodion or of pressure by elastic pads may cure in slight cases. The destruction of nævi by caustics, again, is attended by uncertain results, and the consequent cicatrices are often deep and ugly from the impossibility of our gauging the distance to which the caustics—as chloride of zinc, nitric acid, &c.—ought to penetrate the tissues. The ablation of erectile tumours is probably the most perfectly reliable means of treatment, and this may be accomplished either by enucleation, the ligature, the knife, or the écraseur. Piecemeal excision or enucleation is often attended with great loss of blood, even when the adjacent arterial trunks have been compressed as completely as possible, and the little patients who are the ordinary subjects of nævi bear hæmorrhage badly; hence the rule of the older surgeons, that in removing nævi it was always proper to cut wide of the tumour, was a wise precaution. The introduction of either hare-lip pins or of ligatures frequently fails to cure; the latter are especially unreliable with venous nævi of large size, owing to their becoming loose, even though the skin around the

growths may not have been included in them. The parts daily diminish in size, so that ligatures have to be again and again applied to ensure the entire destruction of the tumour. Moreover, ligatures often set up troublesome ulceration at the base of the nævi, from which occasionally severe hæmorrhage takes place. The advantages which in Mr. West's experience the *écraseur* offers, are that hæmorrhage is avoided,—an important element in all operations, but particularly so with children,—and that a linear cicatrix is formed and a comparatively small wound; and hence that the deformity which by other operative procedures will almost of necessity be produced, is prevented or diminished. Chassaignac also claims for it, that less inflammatory action and less suppuration attend its use than that of the knife, and consequently that the wounds resulting therefrom heal more readily, and are less likely to be followed by pyæmia. On these latter points, however, Mr. West offers no opinion. He relates several cases of its successful employment. (*Lancet*, March 4, 1871.)

**The Radical Cure of Hernia.**—Dr. Vans Best proposes a simple operation for the radical cure of hernia that requires neither the invagination of the parts, nor the use of plugs or buttons, whether of india-rubber or split shot. The steps of the operation are these. He uses a rather long-handled, flat nævus or hæmorrhoid needle, well bent (quite a semicircle) from shoulder to tip, of one and a half inches in diameter, not too wide, and sharpened on both sides from one-third of an inch from the point. A fine hole is drilled for the passage of the ligature, a quarter of an inch from the point. This needle, with a plain dissecting forceps and strong salmon-gut, is all that is required for the operations. After chloroform has been fully given and the hernia reduced, the thigh must be adducted and flexed. The finger, as usual, is introduced *quite within the internal ring*, carrying the integument in front of it up the canal, whilst an assistant draws the skin of the abdomen firmly over towards the opposite groin. The threaded needle is then passed close to the finger, a small piece of wax having been moulded on its point (instead of a canula): the handle of the needle is raised, and the point pushed through the internal pillar and the abdominal parietes, close within the internal ring. The portion of gut on the convex side of the needle is seized by the forceps of the assistant, and the needle, still threaded, withdrawn through all the structures except the temporarily invaginated skin. The finger being carefully maintained *in situ*, the gut on the concave surface of the needle is slightly pulled by the assistant, while that already seized is firmly held. This facilitates the turning of the needle, and transfixion of the outer pillar (Poupart's ligament). This being accomplished, the skin of the abdomen is drawn towards

the crest of the ilium, and the needle passed through the original aperture unthreaded, and the finger and it withdrawn. There is, therefore, one scrotal and one abdominal aperture, the latter directly above the aperture of exit of the hernia. Nothing now remains but to tie firmly home the two ends of the salmon-gut, cut it short, and let it drop into the wound. A pad and spica bandage are applied, a dose of opium is given, and the patient kept in bed until the parts are well matted together. The knot of salmon-gut will either become encysted or come away, it matters little which ; in either case the approximation of the pillars is certain. It is satisfactory to the operator that the assistant should pass his finger up to the internal ring, when he can distinctly feel it grasped as the ligature is tightened. It is absolutely necessary that the salmon-gut should be soaked in warm water for five minutes before being used, and that long round thread should be selected. The needle should be threaded from the concave side. Dr. Best states that he has performed the operation three times, twice with complete success ; the third patient was refractory. (*Ibid.*)

**Treatment of Uterine Hæmorrhage from Fibrous Tumour by Injection of Perchloride of Iron.**—Dr. Matthews Duncan reports two cases of fibrous tumour, and observes that they illustrate well that most dangerous symptom of fibrous tumour of the uterus, namely, hæmorrhage. This disease might with propriety be called a bleeding disease, because, barring the obvious inconvenience of a tumour of large size, the subject of it generally suffers little from its presence when this is absent. In one of the cases reported, had not the bleeding set in, the patient would have been unaware that any unnatural condition whatever existed. Yet here so much blood had been lost that the woman was brought almost to death's door, and another equally severe flooding would probably have killed her. The treatment by means of which the hæmorrhage can be most successfully combated, is that which consists in the injection of perchloride of iron into the uterus when symptoms of the approach of a severe blood-flow set in ; that is, when there exists profuse hæmorrhage about the time the monthly period is expected. Dr. Duncan's mode of procedure is as follows :—After the length and direction of the uterus has been ascertained by means of the ordinary sound, a hollow one is passed into the organ. A syringe composed of vulcanite, containing about a drachm of the liquor ferri perchloridi, is fitted closely into the orifice at the proximal end of the probe, and its contents are gently thrown into the womb. No pain is generally felt as a result of this injection, but a feeling of burning is sometimes complained of. Dr. Duncan is inclined to attribute this to the regurgitation of some of the iron into the

vagina. He has found this mode of treatment highly successful in many cases, and mostly so in those where the symptoms calling for it were most urgent. (*Medical Times and Gazette*, Feb. 11, 1871.)

**Rheumatism treated with Veratrum Viride.**—At a late meeting of the Clinical Society of London, Dr. Silver read a paper on this subject, in which he stated that the drug was given in two-minim doses every hour; ten-minim doses, which were first given, causing sickness and pain in the epigastrium. Its effects were noticed chiefly with regard to two particulars, reduction of temperature and diminution of pain. The temperature charts were laid before the meeting, and the author was of opinion that they testified to an abatement of bodily heat as soon as the drug influence had time to manifest itself; but the cases being only six in number, and his opportunities for further observations being meanwhile in abeyance, he fortified his position by the experience of Biermer, who had used the drug largely in the treatment of croupous pneumonia, and in whose hands it had acted powerfully in inducing defervescence. In the cases recorded a speedy diminution, in certain of them a complete abolition, of pain was brought about within forty-eight hours after giving the drug. As to the other objects to be gained in treating acute rheumatism, specially the removal of any *materies morbi* from the system, the facts recorded do not enable the author to speak, except that with its use the urine speedily became clear. As to the obviation of heart-complications, it was pointed out, that these depended rather on the period of the disease than the withholding of any special mode of treatment, patients ordinarily giving evidence of the complication during the first week of the disease or at the period of relapse.

For reasons hinted at above, the paper could only be considered as a fragment, but might be useful for those who cared to pursue the subject further. (*Ibid.* Feb. 11, 1871.)

**Diphtheria in Obstetric Wards.**—Dr. Braxton Hicks furnishes a report of the occurrence of diphtheria in the obstetric wards of Guy's Hospital in December 1869. It first began in a patient recently admitted, with anasarca coupled with pregnancy. She aborted, and was attacked by the above-named complaint. It extended to others, but it was remarkable that those only were seriously attacked who had had some surgical interference; at least, although some sixteen were influenced by it, yet no one in the ward besides those operated on had any sign of anything more than a slight sore-throat. It is also worthy of remark, that about a week before the first case of diphtheria occurred, a woman who had been in a few days for a plastic operation on the perineum became covered with redness and burning of skin,

with subsequent peeling of the cuticle. The following is one of Dr. Hicks's cases. Whilst the first case that occurred was dying, he removed a fragile calculus from the urethra of a woman who had just entered the hospital. She went on well for about three days, when she complained of being feverish, and that the urethra was tender. On examination the parts that had been abraded were covered by a diphtheritic layer running up to the bladder. In a few days cystitis came on. To relieve her pain morphia was injected into the arm. The spot inflamed and suppurated. About three days after this a swelling over one knee came on. Matter in a day or two was found and let out. On the shoulder also the same occurred. In the meantime her constitutional symptoms became very severe, and it was evident that pyæmia was present in its worst form. As she was sinking, and her husband was anxious for her removal home, she was taken out, and died shortly after. Seven other cases are reported, four of whom died. In commenting upon the cases, Dr. Hicks observes that it is the habit of looking so much for the ordinary symptoms of a specific poison which hinders us from recognizing the untoward influence the same poison may exert in a system exposed to any lesion which requires good health for reparation. So small a quantity of baneful influence is sufficient to produce imperfect reparation of damaged tissues, and so slight is the line of separation between the tendency to good or bad recovery, that we are apt, till our attention is closely drawn to the subject, to overlook these important influences. That which one often puts down to a new disposition to "heal" is quite as often, if not more often, dependent on the system being influenced in a less degree by a poison, which in greater quantity would produce the violent forms of pyæmia. Let this be fully recognized, and careful attention will be amply rewarded by far more satisfactory results. Numberless causes of a detrimental kind surround us all, and the utmost care is required lest they affect those who require reparation of damaged parts. This is equally true in the surgical as in the lying-in room. It matters not in practice whether we believe in the living germ theory, or in floating poison; but that what attacks the patient has a material existence, and is capable of being diffused, driven away, or destroyed, seems to be completely proved. (*Guy's Hospital Reports*, 1870.)

## Extracts from British and Foreign Journals.

**Pathology of Atheroma in the Arteries.**—At the conclusion of an interesting paper on this subject, in which the opinions of numerous English and foreign writers are collated, Dr. Moxon states, he believes he has adduced sufficient evidence to show—1. That what is called atheroma of the arteries is sub-inflammation of various degrees, of which the lower degrees end in fatty degeneration of the coats, along with the inflammatory products; and 2. That the determining cause of the occurrence of this change is mechanical strain. This, he considers, by no means interferes with any belief that a general altered condition in gout, syphilis, &c., may lay the coats of vessels more open to suffer from the said strain, and he is disposed to think, though none has yet shown it to be true, that they do so. He remarks, also, that from a review of the principal English text-books on the subject (Moore, in "Holme's System of Surgery;" Paget; Erichsen; Aitken; Bastian, in "Reynolds' System of Medicine;" and Wilks) it is clear that in this country no connection between atheroma and inflammation of the arterial coats is admitted; it is commonly directly denied: whilst if we turn to consider the teaching current on the Continent, we find a very opposite opinion of its nature to be held; Virchow, Niemeyer, Bilbroth, and others, all regarding it as the termination of chronic inflammation of the walls of the arteries. (*Guy's Hospital Reports*, 1870.)

**Essence of Turpentine in Parasitic Diseases of the Head.**—Dr. Erlach, of Berne, remarks that in order to destroy parasites, which are the cause of several diseases of the hairy scalp, Küchenmeister recommended the application of alcohol, which retards the development of spores and mushrooms. Experience has shown, however, that the action of alcohol does not extend to the fungi that are found in the hair follicles. Tincture of iodine acts better than alcohol; nevertheless the treatment by this remedy does not last more than three months, even in the most favourable cases. He has found, however, that the application of essence of turpentine by means of a brush is more certain and rapid than all other methods of treatment. He believes he has thus cured a case of herpes tonsurans in seven weeks;

several cases of *mentagra* in a week. (*Giorn. Ital. delle Mal. Venere, &c.*, November 1870.)

**Treatment of Delirium Tremens by Hydrate of Chloral.**  
—M. Curschmann adds his testimony to that of many other writers to the value of this remedy. In his earlier cases he states that he did not exceed from 45 to 60 grains for a dose, but subsequently administered 105 grains, a quantity that we at least should consider to be dangerous. He states that Liebreich has even gone as far as 120 grains for a dose. When it has been given, the patient should be allowed to remain at perfect rest and, if we may use the expression, have his sleep out. He thinks, the stronger the alcoholic potations in which the patient has been accustomed to indulge, the larger is the dose required. Sleep is usually induced in from fifteen to thirty minutes, rarely more speedily, sometimes much longer. The respiration during sleep becomes deep and regular. The pulse is sometimes increased at the commencement of the narcosis, but subsequently falls. The usual duration of the sleep was from nine to twelve hours, but in one case it was twenty-one hours, with a break of half an hour at the thirteenth hour. Disagreeable effects from chloral of any kind were rare, but he thinks an augmentation in the number of cases of laryngitis was due to its use. (*Deutsches Archiv*, Band viii. January 1871.)

**On the Use of Bromide of Potassium and Cannabis Indica in Insanity.**—Dr. T. S. Clouston states he has given bromide of potassium, alone or along with Indian hemp, in fifty-one cases of various kinds of insanity. In acute mania he seldom found the bromide do any good, or indeed have any perceptible effect, even when given in 120-grain doses three times a day, and continued for some days; but when combined with tincture of Cannabis Indica, the effects of the mixture were in many cases very remarkable, the patients becoming less restless, the shouting and violence abating, and sleep supervening at night. The pulse usually lost in force. If good effects are not manifested within a fortnight of treatment in a curable case of acute mania, he thinks the patient should be left, for a time at least, to nature, with appetising tonics and nourishment alone. The excellent results he has obtained from the combination of the bromide with Indian hemp justify him, he thinks, in hoping that it will prevent certain cases of acute mania of short duration from being sent to an asylum. He has also found the above combination useful in cases of chronic and periodic mania. In three cases of the latter form the effect was to cut short an attack when it was coming on in its ordinary course. But the forms of insanity in which most good was obtained were puerperal mania and that form of mild insanity which occurs

at the change of life in women. The doses given to the former were 45 grains and a drachm, which quickly subdued the symptoms; but he thinks it would be well to produce this effect rather more slowly. In the cases of insanity at the change of life in women, he found that drachm doses of the bromide alone at night were most beneficial in procuring sleep and allaying the restless depression that usually accompanies this form of aberration. In one of these he had tried opium most carefully, and it had failed to do any good, while the use of the bromide was at once followed by much benefit, and its continued use by recovery in two months. Dr. Clouston lastly found the mixture of bromide and cannabis very serviceable in general paralysis (*Med.-Chir. Review*, January 1871.)

**The Ophthalmoscope in the Treatment of Epilepsy.**—Dr. Keuben Vance states that for the last two years he has been in the habit of arranging the patients he has seen as attending physician for diseases of the nervous system at the Bellevue Hospital according to the intra-ocular appearances observable with the ophthalmoscope. Two well-marked groups can be distinguished; one group characterized by vascular fulness, the other by anæmia of the retina. He observes, further, that all who have had to treat numerous cases of epilepsy, and have employed bromide of potassium, must have found that certain cases have steadily improved from the commencement of treatment, whilst others, comparatively few in number, have as steadily grown worse. The cases that improve are, though doubtless with many exceptions, those that are characterized by the diurnal character of the attacks, and those that do not improve with the bromide by their occurring at night. This difference in the period at which the attacks occur would seem from his observations to be connected with the state of the circulation in the brain, which organ, as is well known, is anæmic during sleep; and it is in the anæmic cases that the attacks occur by night. In the congested cases the attacks occur by day, and it is in these that the bromide of potassium proves of such value; when the drug is effective, the circulation returns to its natural state. In the anæmic state of the retina, regarding this as an index of the state of the cerebral capillaries, he prescribes strychnia or belladonna. He guards himself from being supposed to maintain that every case of epilepsy can be cured by attention to the state of the cerebral circulation and treatment directed herewith, but he thinks this symptom may form a valuable indication for the line of treatment that may be adopted with the best prospect of success. (*New York Medical Journal*, Feb. 1871.)

**Experimental Researches on the External Treatment of the Variolous Pustule.**—Dr. Maragliano remarks that the



external treatment of the pustules in small-pox has always attracted the attention of physicians. The inconvenience and pain proceeding from the tense tissues, the tenacity with which the crusts remain adherent to the skin of the face even when convalescence is established, and the ultimate loss of substance, have led many to adopt a variety of measures with the view of preventing disfigurement. Lussana, Quarin-Villemier, Ruba, and, above all, Bamberger, have recommended the use of collodion as an excellent means of diminishing the pain and tumefaction, and of preventing the formation of cicatrices. Hebra and Cantani, however, have found it of little avail. M. Maragliano, from his own researches, believes it diminishes the swelling, but at the same time its contraction occasions considerable pain, and from trials of it over certain portions of the face he found the cicatrices were larger and deeper where it had been applied than elsewhere; and this, he thinks, can readily be explained, as the pus when formed, instead of being discharged, as naturally occurs, meets with fresh resistance in the layer of collodion, and the size of the little abscesses consequently increases. Instead of this remedy he recommends the employment of glycerine, which he has found of essential service. Its use, which was recommended by Gubler and Lailler in acute dermatoses, was introduced into the Ospedale Civico by Dr. Bellagamba, and was first applied to the relief of variola by Dr. Maragliano, who has now had experience of it in 800 cases. He applies it freely over the surface of the skin with a brush as soon as the eruption makes its appearance, and repeats its application twice a day till the crusts have fallen off. It relieves the tension, permits the eyelids to move more freely, aids the crusts in separating, and hence leads to less pitting. When the pain is considerable, a few drops of laudanum may be added to the glycerine with great advantage. (*L'Imparziale*, Feb. 16, 1871, and *Liguria Medica*.)

**Management of the Perineum during Labour.**—Dr. Goodell, of the University of Pennsylvania, in a carefully-written article, headed by an excellent and learned historical *résumé* of the modes of treatment adopted by various practitioners of renown, states that in his belief the vast majority of natural labours require no assistance whatever to ensure a safe delivery, provided the woman has escaped frequent touching. He admits, however, that cases do undoubtedly arise which demand intelligent assistance, and that it is not always easy to draw the line of demarcation between natural and morbid cases. When assistance is required, he makes it a rule to have the perineum decently exposed to view. The prudery of obstetric teachers has, he is certain, been the cause of many undiscovered, and consequently

uncured, lacerations. Whenever it seems **proper** to aid nature, he inserts one or two fingers of the left hand into the rectum, the woman lying on her left side, with her knees well **drawn up** and separated by a pillow, and hooks up and pulls forward the sphincter ani towards the pubes. The thumb of the same hand is then to be placed upon the foetal head, scrupulously avoiding all contact with the fourchette. The right hand need not remain idle, but should assist the thumb in making the head hug the pubes, or in retarding its advance; after a pain it presses back the head from the perineum, and thus represses reflex uterine action. It restrains the movements of the woman; it pushes up the corrugated scalp, so that no folds shall remain beneath the sharp edge of the perineum to increase the circumference of the child's head; finally, it supports the emerging head and body, causing them to describe the curve of Carus. Dr. Goodell claims for this method the following advantages:—(a) By pulling up the sphincter ani towards the pubes, not only is nature imitated, which always dilates the anal orifice, but the perineum is brought forward without direct pressure, and its dilatation is diffused over its entire surface, causing a corresponding relaxation of the strain upon the posterior commissure in the line of its raphe. In addition, its muscular fibres are crowded up to, and consequently strengthen, the line of greatest tension. (b) The same force which dilates the sphincter ani compels the occiput to hug the pubes and favours extension, especially if the fingers in the rectum are hooked over the prominences of the foetal face or over the chin. (c) This aid is not liable to sudden interruption, for however restless the woman may be, the thumb and fingers, once well applied, follow the movements without relaxing their hold. (d) The thumb of the left hand, together with the fingers of the right, can, by direct pressure upon the presenting part, restrain its too rapid advance without exciting reflex uterine contractions. (e) The circulation of the blood is left free, the nerves are not benumbed by pressure, and the perineum therefore continues in its normal condition, that of a living elastic and sentient tissue. (f) After the parts attain the maximum dilatation at the occipito-bregmatic circumference of the foetal head, it is, in his experience, the rapid springing back of the fourchette over the projecting nose, or the subsequent rapid expulsion of the shoulders, that often produces lacerations. These causes are, however, well controlled by his method—in the former instance by merely pulling forward the sphincter ani, in the latter by adding the support of the right hand to the emerging shoulders. Finally, as the dilatation of the ostium vaginae is made at the expense of the labia which are attached to the anterior aspect of the pubic rami and symphysis below the mons Veneris, much advantage will be gained both by compelling

the complete extension of the head before delivery, and by carrying forward the perineum in order to approximate the fourchette to the level of the symphysis whence its fibres spring. (*Hay's Journal of the Medical Sciences*, Jan. 1871.)

**Cod-liver Oil.**—Dr. A. S. Hudson states that the taste of cod-liver oil may be wholly disguised by adding to one pint of the oil half an ounce of tincture of gum guaiacum and a drachm of essence of gualtheria. The same writer asserts that dry calomel, applied once or twice a day to external hæmorrhoids, rarely fails to cure them in a few days. (*American Med. Gazette*, Feb. 1871.)

**Treatment of Chronic Eczema.**—In a severe case of this disease, on which a clinical lecture was delivered by Professor Agnew, of Pennsylvania University, the following treatment was recommended as the proper course to be pursued. In the first place, all obstructions were to be removed by careful attention to the general health of the patient. The bowels to be kept freely open, the digestion improved, and in fact every function and organ placed in proper working condition. As internal remedies, the syrupus ferri iodide in the dose of fifteen minims was to be given three times in the twenty-four hours, and the infusion of cascarrilla was recommended as an excellent stomachic. Locally, the legs, which were the principal seat of the disease, were to be twice each day thoroughly bathed in bran-water, and then washed with juniper-tar soap, to be followed by a liberal application of tar ointment with ʒj of calomel incorporated in each ounce. Professor Agnew remarked that another excellent remedy, and one with which he had often succeeded, was the hydrarg. chlor. mitis ʒiiss, cretæ preparatæ ʒj. The powder to be thoroughly rubbed into the unhealthy skin. (*Medical and Surgical Reporter*, whole No. 725, 1871.)

**Cases of Tetanus Neonatorum treated with Chloral Hydrate.—Recovery.**—Dr. Widerhofer lately showed to his class a child of three months old, which was attacked by tetanus neonatorum at the end of the first week after birth, and was treated with chloral hydrate in doses of one and two grains at the time of each onset of convulsions. It was in danger for a fortnight. During the intermission of the spasms it was fed from the breast by its mother. It is now a fine healthy-looking child. This is the sixth case (out of ten or twelve) that Dr. Widerhofer has had of recovery under treatment by chloral. Under all other methods all his previous cases died. Considering that Vogel and other great German authorities on children's diseases had quite recently never seen a case of this affection recover, such a success must be taken to indicate a

real advance in therapeutics. Dr. Widerhofer gives from two to four grain doses by the rectum if the infant cannot take it by the mouth. (*Lancet*, March 18.)

### Vaccination and Revaccination of Pregnant Women.

—Dr. R. Barnes says that the question has often been put to him, Is it right to vaccinate pregnant women? Some people have great fear of this proceeding. To justify one in neglecting it, it ought to be shown not only what special risk there is, but also that it is more serious than the risk incurred by the women themselves by taking small-pox, and thus of propagating it to others. Where is the evidence that the pregnant woman incurs a particular danger from vaccination? Dr. Meigs has said that he has seen them suffer great distress from it, and strongly deprecates its performance: but Barnes thinks there is some confusion. *Small-pox* has been often known to produce abortion and other serious mischief. And Barnes has observed, (1) that pregnant women are very liable to catch contagious fevers; (2) that they are less able than others to throw a morbid poison off; (3) that their system offers less resistance than that of others: thus abortion and dangerous puerperal fever are likely to follow. On the other hand, he does not believe there is any evidence to show that vaccination can set up any disturbance capable of inducing abortion or other serious mischief. Under these circumstances, it is very clearly our duty to afford them protection (and the community through them), against small-pox, by vaccination. And it is evident that this fact requires to be authoritatively laid down, as great indecision at present prevails about it in the minds of professional men. (*Brit. Med. Journal*, March 4.)

**Puncture in Anasarca.**—Dr. Handfield Jones communicated a paper on this subject to the Clinical Society. He advocated making a single puncture in the calf of each leg with a trocar, and, after withdrawing the stilettes, leaving the canulas open for several hours, to allow the fluid to drain away. In this manner he succeeded in the first operation in drawing off sixty measured ounces of fluid from the right leg, but only ten from the left, in consequence, he supposed, of the canula not lying properly in the subcutaneous cellular tissue. In a second operation on the same man, three days afterwards, he drew off 120 ounces of fluid, besides a great deal which ran from the puncture for several days afterwards, sufficient to saturate three blankets. For the performance of the operation, the man was placed in a sitting posture, and this he considered important, as it facilitated the draining away of the fluid.

## Notes and Queries.

### DEPARTMENT OF ANALYSIS AND NEW INVENTIONS.

CHAPMAN'S ENTIRE WHEAT FLOUR. — This preparation has been subjected to very careful examination. It is a very finely and smoothly ground flour. Under the microscope it presents no appearances of crystals; the only things distinguishable are granules of wheat starch (no other starch) and fragments of coats of the wheat-seed. The latter are very abundant: they consist chiefly of the first and fourth coats, with a few portions of the second, and a few hairs. Those of the first coat were largest, a good many being  $\frac{1}{100}$  inch in largest diameter; none could be found larger. Very few fragments of the fourth coat (which were next in size) exceeded  $\frac{1}{200}$  inch in diameter, and most were between  $\frac{1}{300}$  and  $\frac{1}{100}$ . No trace of fungus or other foreign substance could be found.

The microscopic characters above mentioned, together with the ash left after combustion, leave no doubt that this preparation is what it professes to be, an entire wheat flour, free from all impurities. As such, there can be no doubt of its highly nutritious properties: and the indigestibility which to delicate stomachs sometimes makes brown bread, oatmeal, and similar things too *irritant*, is probably removed by the fine mechanical division of the more insoluble particles in Chapman's flour.

Besides our scientific examination of this substance, we have submitted it to extensive practical trials in the hands of a very clever cook. In this point of view we regret to say it does not come out quite so well as we could wish. Highly nutritious it certainly is, but in palatableness it leaves a good deal to be desired: we say this after trials of it in several different forms. In particular we have not found children take heartily to puddings, custards, or gruel made from it; and this is a pity, since the composition of the flour is all that could be desired for making a food for growing children. There is, to say truth, only too genuinely *wheaty* a flavour about the material, which is not in itself agreeable, and we hope that Messrs. Chapman will soon remedy this defect in an otherwise most valuable and much-needed article of food.

## CORRESPONDENCE.

RELATIONS OF UREA TO MUSCULAR EXERCISE. — We have received the following interesting note from Dr. Austin Flint, jun. of New York:—

“In reflecting upon your courteous and eminently **appreciative** remarks in the *Practitioner* of Dec. 1870, upon my observations in the case of **Mr. Weston**, the pedestrian, who **walked one hundred miles** in a little less than twenty-two consecutive hours, it seemed to me that I would not **be guilty** of indelicacy in addressing you a few lines in **explanation** of the somewhat unsatisfactory nature of **my** experiments. The data upon which **the conclusions** in my paper were based were by no **means** so exact as I could have desired, for reasons that were entirely beyond my control.

“In the first place, I had no accurate estimate of the amount and kind of food taken during the walk. I saw Mr. Weston for the first time during the last two or three hours of the walk. I obtained all the urine passed during the period of his remarkable effort, simply as it had been collected, as a matter of convenience to him, in a single vessel. The amount of food and drink was given to me roughly by those in charge of the exhibition, none of whom could be very exact in their statements. I made an effort to obtain the urine for the twenty-four hours after the walk, with the amount of food, &c., but failed, as I had no opportunity of impressing upon those concerned the importance of the results to be obtained. It was not until three months after that I had an opportunity of conversing fully with Mr. Weston and inducing him to collect his urine for me. I will do him the justice to state, however, that he then made every effort to aid me in my observations; but, of course, he could not supply data for time that had already passed. The materials at my command were made use of as best I could; but the relations of the nitrogen discharged to the nitrogen of the ingesta, so important in the present condition of the question under consideration, were lamentably imperfect and indefinite.

“The difficulty in experimenting upon an important physiological question on a person not absolutely under the control of the observer is sufficiently evident. Still, despairing of ever having another and a better opportunity, I deemed it my duty to put forward the facts for what they were worth. Had I supposed that I would have had the advantage of controlling my first experiments by others of a more satisfactory character, I would not have published them in the form in which they appeared in the *New York Medical Journal*.

"Mr. Weston, in my opinion, is an extraordinary man. He has accomplished the most wonderful feats of endurance, always without having gone through with a regular system of training. It may not be uninteresting to state some facts with regard to his physique. He presents extraordinary development of the muscles which move the thighs upon the pelvis, but elsewhere his muscles are small. His hips are so broad that he cannot chafe between the thighs, thus avoiding one of the chief sources of difficulty with long walkers. His muscles are never hard, even when in his best "condition" and after his longest walks, and he never has cramping, which so often occurs in long-continued exercise. As regards endurance, he is exceptional. He walked, a few days ago, from Portland (Maine) to Chicago (Illinois), a distance of about 1,200 miles, in thirty consecutive days, resting four Sundays, and this in the early winter, through mud, rain, and snow; and he is apparently as well after such efforts as before. Those interested in the turf know that there are horses, like some of the winners of your great races, so superior to others in endurance, that even the best-bred animals can never successfully compete with them in long races. The great American horse, Kentucky, in his prime, was one of these. We frequently run, in this country, four-mile races. When in his best condition, Kentucky would win such a race without the slightest distress at a pace almost killing to his competitors. I can only compare Mr. Weston's powers of endurance to this. In this regard he seems to differ from other athletes. There are many who can excel him in a walk of twenty-five or fifty miles, but as a long-distance walker he seems, at the present day, to stand alone. I do not see how physiologists can explain the exceptional possession of such powers of endurance; the most stupendous exhibitions of muscular effort being followed by no soreness or nervous depression.

"Mr. Weston has an ill-judged contempt for "training." He takes no regular exercise, and does not restrict his diet before his greatest efforts. About a week after his hundred-mile walk, he walked fifty miles in less than ten hours. The night before the attempt, at 2 A.M., he was eating pork and beans preparatory to going to bed. His failures, which have been numerous enough, have been due, I think, to want of attention to diet and preparatory exercise. When he has failed, it has been from vertigo and nausea, and not from fatigue. When he begins a great walk without having accustomed his nervous system to the extraordinary strain, and without preparing his digestive organs for food in the form in which he must take it while actually walking (for he seldom stops to eat or drink), his success is a matter of chance, and cannot be depended upon.

"I think that you will agree with me that the extraordinary

and prolonged muscular efforts made by Mr. Weston, if they could be made the subject of thorough investigation, would develop important physiological facts. It was with this conviction that I instituted a second series of observations. Without forestalling the results of these new experiments, I may state that they will meet all the objections that have been made to those already published. The following is the general plan in accordance with which they were conducted :—

“Mr. Weston proposed to walk 400 miles in five consecutive days, and on one of the days to walk 112 miles in twenty-four consecutive hours. He made the attempt in November last, and failed. He actually walked, however, as follows :—

First day, walked . . . . .	80 miles
Second „ „ . . . . .	48 „
Third „ „ . . . . .	92 „
Fourth „ „ . . . . .	57 „
Fifth „ „ . . . . .	47½ „
<hr/>	
Total . . . . .	317½ „

“Though the attempt was a failure on the part of Mr. Weston, the exercise varied so much on different days, that it seemed very favourable for purposes of scientific investigation.

“Fully alive to the importance of the contemplated observations, I associated with me a number of scientific gentlemen, so that, if possible, nothing of importance should be omitted. A few weeks before the walk, the following gentlemen met Mr. Weston with me, and laid out a plan of operations, viz. : Prof. Dalton, Prof. Doremus, Prof. Hammond, Prof. Van Buren, and Prof. Flint, senior. We then decided upon the following plan :—

“A trusty person was to be with Mr. Weston, day and night, for fifteen days ; viz. five days before the walk, the five days of the walk, and five days after the walk. We did not interfere in any way with the diet or exercise, only observing and noting all facts.

“Every article of food and drink was carefully weighed separately. The amount of exercise was carefully noted. Each day the weight, pulse, respiration, and temperature were noted. The urine and fæces were collected for each day and examined. Every other circumstance of interest was noted during the entire period. It was left to Prof. Doremus and myself to carry out the above plan of investigation.

“In these observations I superintended the records, examined the urine microscopically, and took the immediate charge of Mr. Weston, as far as had been contemplated. Prof. Doremus superintended all of the chemical analyses. The high reputation



which Prof. Doremus has long enjoyed as a teacher and a practical chemist is a sufficient guarantee of the accuracy of the chemical examinations.

"We have now all of our data complete, except the analyses of some of the articles of food. Mr. Weston ate what he pleased, and consequently we had more than forty different articles to examine, which has caused some delay. When our records and tables shall have been completed, we will have before us the exact quantity of nitrogen taken into the body, as well as that discharged. Fortunately no accident happened during the observations, and everything is complete and accurate. If we arrive at no other important result, we will certainly be able to ascertain the proportion of urea to the nitrogenized elements of food during exercise and during comparative repose."

IDIOPATHIC TETANUS SUCCESSFULLY TREATED BY BROMIDE OF POTASSIUM AND CALABAR BEAN.—Mr. Allan Coutts, M.B., C.M. of Banchory, sends the following:—

"As idiopathic tetanus is said by systematic writers on medicine to be a very rare disease—especially in cold or temperate climates—the notes of the following case, successfully treated by the combination of bromide of potassium and Calabar bean, may be interesting to the profession.

"J. M'K——, aged 38, a strong, healthy-looking man. By occupation an engine-fitter and occasional driver, he has been a good deal exposed through the winter to alternate heats and chills. Had been complaining for a month or six weeks before my first visit of cough, lassitude, and wandering pains through his body, with headache, &c. Does not remember having received any wound or other injury for a length of time. When first seen on the evening of the 9th February, his symptoms were those just mentioned, together with a feeling of constriction of the chest and sore throat. Chest sounds normal. Ordered an effervescing mixture of ammonia with liq. morph. hydrochlor. (℞ xv.) *ter die*, and to keep his bed.

"Throughout the night of the 9th and morning of the 10th February he was very much troubled with convulsive starts every two or three minutes; and this morning (10th), about 10 A.M., on being removed to another bedroom, he was seized with general and violent spasms of the muscles of the legs, back, and chest, and to a less extent of those of the neck and face. His intellect remained perfectly clear during the attack, and he complained much of a feeling of suffocation.

"About 11 A.M., during my visit, another severe convulsion seized him: his back was violently bent (*opisthotonos*), his neck and head were rigidly drawn backwards, and his toes and fingers very firmly flexed. His cries during the convulsion

were pitiful, as he was perfectly conscious all the time. The convulsion was also accompanied by spasmodic contractions of the diaphragm and hiccough. The risus sardonicus was only slightly marked. Face during the spasm flushed, pupils contracted, and he perspired very freely. His back, neck, and lower extremities remained very rigid after the convulsion, which lasted for about three minutes. There being no Calabar bean in the village, the following powder was ordered, until a supply could be got:—

R Potass. bromid. gr. xxv.

Pulv. Doveri gr. vj.

One every second hour, along with ʒss of brandy and beef-tea. The first one, which I myself administered, brought on during the attempts to swallow it very violent convulsions, especially of the muscles of the jaws and neck; and it was only after repeated struggles that it was got over.

"12 A.M.—Has had another very severe convulsion, worse than the last, and during which his urine was expelled in bed. The slightest noise, or any attempt to move or swallow his food or medicine, also brings on severe spasms.

"5.30 P.M.—Had another severe spasm about 2 P.M. Has also severe jerking spasm of diaphragm every minute or two; muscles of his back and legs very rigid and painful. Face flushed, skin moist; pulse 90, temp. 98°6. A supply of Calabar bean having arrived, the following tinct. was prepared:—

R Extract. physostigmatis ven. gr. viij.

Gradually rub down, and mix with sp. vini rect. ʒss, giving ½ gr. of extract to each 10 min. of the tinct., which dose he was ordered along with a bromide powder every two hours; also ʒss ol. ricini at bed-time.

"11th Feb.—Slept a little during the night. No severe spasms. Still has the diaphragmatic spasm and hiccough. Neck, back, and legs still rigid. Has swallowed food and medicine as directed, and without much difficulty. Bowels opened freely; pulse 63 and weak; temp. 98°2. To have the Calabar tinct. three times daily, the bromide twice.

"12th Feb.—Had an attack of sickness last night, but has had no spasm. Neck, back, and legs still rigid. Slept three hours last night. To leave off the Calabar bean, and to have the effervescing ammonia mixture instead, together with bromide gr. xx. twice a day.

"13th Feb.—Progressing favourably; legs and back still stiff; eats and sleeps well. Coughing a good deal. Bowels opened twice.

"14th Feb.—Still improving.

"17th Feb.—Has got up to-day; convalescent.

*Remarks.*—The known physiological action of the bromide of potassium in large and repeated doses, and the great power it has in soothing and lessening the reflex excitability of the medulla oblongata and nervous centres in general, induced me to try it in this case, as the best substitute until a supply of the Calabar bean could be got. It seemed to act so well that it was continued throughout the treatment of the case, along with smaller doses of the Calabar extract than we are usually advised to administer.

"The result was, that the tetanic spasms were perfectly controlled, and the morbid reflex excitability of the spinal centres allayed without any fear of the powerfully depressing influence which large doses of the Calabar bean, given in rapid succession, have upon the heart's action, acting, as it does, as a direct paralyser of the cardiac ganglia.

"If the combination of the bromide with small doses of the Calabar bean is found, after repeated trials, to have as beneficial an effect as large and repeated doses of the latter drug given alone, it would be especially advantageous in country practice, where very often neither nurses nor assistants sufficiently intelligent can be got to carefully watch the effects of such a powerful and dangerous remedy as the Calabar bean is."

**HOMŒOPATHIC TREATMENT OF SYMPTOMS.**—We have received from Dr. Drysdale, of Liverpool, the eminent homœopathic practitioner, a remonstrance against our statement (confirming that of Dr. Wilks), that the treatment of symptoms is the prominent characteristic of homœopathy. Our readers will probably be surprised to hear that Dr. Drysdale not only denies this, but says that a true homœopath never could treat symptoms. He says that the treatment is not directed to them, but to the proximate cause of the disease of which they are the expression. That seems to us a delusive idea. Inasmuch as the diagnosis by which the notion of the proximate cause is thought to be discovered consists merely in a simple *enumeration* of the symptoms and physical signs which the practitioner can detect, and the remedy has to be selected on the ground that it can produce all the actions which are represented by the symptoms of the disease, it seems obvious that the "proximate cause" is a metaphysical abstraction, and that the treatment really is addressed to the symptoms. Moreover, it is addressed to an artificial conglomerate of symptoms, which seems to us a worse error than frankly treating isolated external phenomena.—Ed. PRACT.

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<sup>1</sup> Any of the foreign works may be procured by application to Williams and Norgate, of Henrietta Street, Covent Garden, W.C.; or to Messrs. Dulau, of Soho Square, W.C.

# THE PRACTITIONER.

MAY, 1871.

## Original Communications.

### CASE OF COMPLETE BUT TEMPORARY LOSS OF VISION IN AN ATTACK OF SCARLET FEVER.

BY HENRY POWER, F.R.C.S.

*Senior Ophthalmic Surgeon to St. Bartholomew's Hospital.*

THE following case excited so much interest in my own mind, and, if I may judge from the few cases that I find reported, is of such rare occurrence, that I think it worthy of being placed on record in the *Practitioner*, and I should be glad to hear from any of its readers whether they have met with similar cases. I have to thank the surgeon in attendance, Mr. C. St. Aubyn Hawken, of Wandsworth, for his kindness in forwarding to me his notes of the case.

Louisa M——, aged 17 years, and living as servant in a gentleman's family, at Wandsworth (where the mistress and a young child died from scarlatina), fell ill with the same complaint on December 27, 1869. All were treated homœopathically by the family attendant, and one week from commencement of fever Louisa M—— was ordered out of bed, and, four days later, requested to take outdoor exercise. On January 7th, 1870, she returned to her parents' home for change of air. She

appeared to be in tolerably good state of health till January 14th, when she had a rather severe rigor, headache, and great drowsiness, which continued up to January 16th, when Mr. Hawken was first sent for to take charge of the case. He found her very feverish, with pain and tenderness in loins, puffy face, and swelling of areolar tissue of body generally; slight desquamation of cuticle; pulse 126; frequent vomiting; urine scanty, dark smoky colour, and highly albuminous, containing coagulated masses of fibrin, blood-corpuscles, and epithelial casts and cells. Prescribed rest in bed, warm baths every alternate night, low diet, with plenty of barley-water as drink. Pulv. jalapæ co. every second or third morning, and simple diaphoretic mixture every four hours.

*January 18th.*—Dropsy disappearing; urine slightly increased in quantity, and rather less albuminous; vomiting quite ceased. Same mixture to be continued, but powder to be omitted as bowels have acted well each day since the 16th.

*January 21st.*—Dropsy improving; urine considerably increased in quantity; severe vomiting again set in without any apparent cause. Ordered five minims of dilute hydrocyanic acid in effervescing mixture every four hours, with plenty of ice to suck.

*January 23rd.*—Much improved; sickness almost ceased. Continued same treatment.

*January 24th.*—Awoke at 3 A.M. with violent fit of vomiting, in the midst of which the sight of both eyes was entirely lost; nothing abnormal in external appearance of eye, except that the conjunctiva was somewhat congested; the pupils were slightly dilated, but acted well. The areolar swelling of the body had almost entirely disappeared; about two pints of urine passed during last twenty-four hours, and much less albuminous. Continued same mixture every *three* hours, and applied mustard-poultices to nape of neck and behind both ears, and slightly darkened the room.

*January 25th, 10 A.M.*—Passed a very restless night; very feverish, great pain in temples and over eyebrows; pulse 130. Tongue somewhat furred; vomiting much less frequent; eyes and sight in precisely similar condition as yesterday; pain in temples, &c., about the same. Bowels continued to act well without

purgative medicine. Continued the mixture with ice and iced brandy and water; applied blisters to both temples.

4 P.M.—Consultation with Mr. Power.

So far, Mr. Hawken.

My own notes are as follows:—

Patient, a somewhat robust and rosy-faced girl, lying in bed, much depressed in spirits.

On examining her eyes I was unable to perceive any outward indication of disease. The lids were natural, not cedematous. The conjunctiva was free from congestion. The cornea and sclerotic were perfectly normal. The iris responded readily to the light of a candle. There was no perceptible increase in the tension of the globes. The vision was so far impaired that she could only just see any very brightly illuminated white object, the rest of the field being in perfect gloom. She stated that there days prior to my visit, on the 22nd January, she had had several transient attacks of dimness of vision, but on the evening of that day she was able again to read, and spent some time in looking at pictures. On awaking at 3 A.M. on the morning of the 24th, she found she was completely blind. In this state she had remained for nearly the whole day, though on the previous afternoon some slight recovery of sight had taken place.

I experienced great difficulty in making an ophthalmoscopic examination, the pupils contracting to a very small size when the reflection of a candle was thrown upon them; and, not having then read or heard of any similar case, I was afraid to instil atropine, lest in the event of its rendering the vision still more dim, which I thought not improbable, I should add to the mental depression from which it was obvious she was suffering, and should thus diminish the chances of her recovery. However, I satisfied myself that the media were perfectly clear. The retinal vessels were full, and I was inclined then to think, though my opinion has since changed, that there was a slight amount of peripapillary cedema. If any, it was small.

Looking at all the circumstances of the case, the suddenness of the failure of vision, its evident association with the attack of scarlet fever the slight recovery that had taken place, the general

appearance of good health of the patient, and the slight affection of the retina visible, I was inclined to augur favourably of the case, and to think that with the aid of tonics, and especially of iron and strychnia, the disease might be cured.

Mr. Hawken resumes :—

*January 26th.*—Passed a quieter night ; only a trace of sight ; vomiting almost entirely ceased ; so, on Mr. Power's recommendation, prescribed—

Liq. strychniæ ℥v.

Spir. chloroformyl. ℥x.

Tinct. ferri sesquichlor. ℥x.

Aquæ ʒj.—quartâ quâque horâ.

*January 27th.*—Slept well ; vomiting entirely subsided ; pain in temples and forehead less ; no improvement in sight ; no dropsical swelling anywhere noticeable ; pulse 110 ; tongue clean. Continued same prescription ; ordered small piece of chicken twice daily.

*January 28th.*—General symptoms about the same ; fancied she could see occasionally slight glare of light on bright lamp being placed before the eyes. No change in treatment.

*January 31st.*—Urine perfectly free from albumen ; sight been gradually returning since the 28th—able now to distinguish objects around bedside, but could not point out her father from mother ; much improved in general health ; appetite good ; no pain anywhere ; pulse 98. Ordered mutton chops, and continued same medicine.

*February 3rd.*—Both sight and general health continued steadily to improve ; can now distinguish with difficulty her mother from an elder sister. Liq. strychniæ, &c., continued ; meat, vegetables, wine, and beer ordered ; and room lightened.

*February 7th.*—Can read large size print ; dropsical symptoms and albuminuria having disappeared for more than a week, allowed to sit out of bed for a few hours.

*February 13th.*—Sight perfect, and, with exception of general debility, health apparently as good as ever it was ; ordered down stairs, and prescribed citrate of iron and quinine. A few days



after this, the weather being fine, allowed her to take outdoor exercise; and about the beginning of March she returned quite well to her former occupation.

*June 30th.*—Have just seen her father, who says his daughter, since her return to work, has been in perfect health, with her sight perfectly good, and never had any return of her dropsical symptoms.

In looking through the principal works and journals treating of diseases of the eyes, I have been much surprised at the exceeding rarity of reports of similar cases. Thus from the indices of the numerous volumes of the "*Annales d'Oculistique*" I was only able to obtain a reference to one case (t. ix. p. 60), by M. Camerer, who states he attended a child of nine years of age, who, whilst suffering from desquamation of the skin after scarlet fever, was exposed to a draught of cold air, and was suddenly affected with convulsions, alternating with delirium. The remedies employed were calomel, nitrate of potash, sinapisms, and leeches. The convulsions ceased, but it was then discovered that the child was completely blind, though the eyes presented no evidence of disease beyond slight dilatation of the pupils. In accordance with the usual practice of that time, M. Camerer proceeded to bleed the child, and states that recovery of vision followed in the course of twenty-four hours. I found a similar case in Schmidt's "*Archiv*" (Band xxvi. p. 292), recorded by M. Pitsch, which appears to have presented very similar features, the blindness occurring coincidently with an attack of epileptiform convulsions during the period of desquamation. This also was only temporary in its nature, recovery taking place after the administration of calomel internally and of leeches to the temples.

M. Deval (*Maladies des Yeux*, 1862, p. 683) states he has met with cases of amblyopia, as well as of blindness, sometimes in one, sometimes in both eyes, originating in the suppression of attacks of measles, which had not been allowed to run their natural course; and that a similar amaurosis occurs in scarlet fever, generally owing to a chill, and frequently accompanied by coma, delirium, and convulsions.

Stellwag v. Carion (*Lehrbuch*, 1867, p. 799) only remarks that there is a pathogenetic connection between the amaurosis accom-

panying severe febrile affections, acute exanthemata, &c., and that of primary intracranial neuritis; the blindness being rapid, and affecting both eyes, or more rarely only one, and being accompanied by other symptoms, indicating the cerebral affection. Middlemore, Arlt, Desmarres, Wecker, and Bader only cursorily mention such cases. Mackenzie devotes a short section to it, and states that it is no uncommon thing for a child recovering from scarlatina to be seized, perhaps after some exposure to cold, with headache, followed by frightful dreams, convulsions, blindness, and coma. These symptoms, he continues, "may have been preceded by albuminuria and by the cedema frequently supervening upon scarlatina, and on that account are apt to be ascribed to sudden effusion in the brain; but the opinion of Dr. Abercrombie is, I think, undoubtedly correct, that the disease is inflammatory, and that the patient can be saved only by the most vigorous antiphlogistic treatment—bloodletting, purgatives, and the like. By this plan many cases perfectly recover; some remain ever afterwards liable to epilepsy; others die and present the usual appearance of inflammatory affections of the brain." He records two cases—one of recovery, the other of death.

The fullest and best report of such cases that has hitherto appeared is that of M. Ebert, in the Reports of the "*Berliner Med. Gesellschaft*," to whose paper I was referred by my friend Mr. Soelberg Wells. M. Ebert records several cases of amaurosis occurring after typhus and scarlet fever. One of these was a boy *æt.* 11, strong and well nourished, who was attacked with scarlet fever on the 17th June, 1867. The exanthemata and inflammation of the throat lasted five days. Desquamation commenced, and proceeded satisfactorily seventeen days after the commencement of the attack (4th July); the patient was slightly cedematous about the face, and the following day over the rest of the body. The urine was dark and albuminous; vomiting occurred on several occasions. It was obvious that nephritis scarlatinosa had set in. On the twenty-fourth day violent headache occurred, with vomiting, bloody urine, and irregular pulse. The next day the patient complained of pains in his eyes, was sub-delirious and restless. At mid-day coma supervened, and at 7 P.M. he suffered from a convulsion. The next day he awoke with severe pains in the head and eyes, and suddenly exclaimed,

"I am blind!" This was found to be really the case. The motions were passed involuntarily, the head was hot, the lips dry. On the 14th July he was still quite blind and sub-delirious; on the 15th the same, but low, and at mid-day he could distinguish light from darkness. The ophthalmoscopic appearances were taken down by v. Gräfe, who found the interior of the eyes healthy, with the exception of a slight tortuosity of the veins of the left eye. The pupils contracted actively. In the evening the patient could see forms. That night the patient slept well, and on the following morning he had recovered the vision completely, and the other nephritic symptoms gradually disappeared, the patient ultimately recovering completely.

Ebert records three other cases presenting a singular uniformity in their symptoms. In the same journal (No. 9, 1868), M. Henoch reports and refers to several similar cases, and remarks that the first physician who noticed the connection of œdema and scarlet fever, Dr. Wells, observed and described a case of this kind.

The principal point of interest in these cases is the explanation we must adopt in regard to the cause of the blindness. Is it due to a centric or a peripheric lesion? The first explanation that suggests itself is that it is due to a condition of œdema of the retina, analogous to that state we see produced in the skin as the result of exposure to cold during desquamation. Whatever conditions of the blood or vascular system they may be that produce anasarca of the skin, whether primarily acting on the vascular or nervous tissues, might be supposed to act with more than ordinary force upon the close vascular network of the choroid. It is possible also that such serous effusion might undergo rapid absorption. But the objections to this view are very great. For, in the first place, the affection in all the recorded cases has been preceded or accompanied by symptoms indicating serious disease of the nervous centres, as by vomiting and convulsions; and, in the second place, we find that serous effusions into the retina, long before they occasion complete loss of vision, are very clearly recognizable under the ophthalmoscope, as in cases of syphilitic and albuminuric retinitis; and further, that as a general rule, though liable to temporary variation in intensity, as indicated by variations in the visual power, such

effusions disappear comparatively slowly. Further, it may be observed that the reaction of the iris to light is scarcely if at all impaired.

Another explanation that might be advanced is that rupture of some vessel has occurred during the convulsions or efforts of vomiting in the corpora quadrigemina, or in the optic thalami near the origin of the optic tracts, temporarily destroying their function; but against the probability of this is the fact that in epilepsy the cerebral vessels are very anæmic, and in addition that the recovery is too sudden, whilst it is highly improbable that such an effusion could take place symmetrically on the two sides, as indicated by the occurrence of symmetrical blindness of the two eyes, and equal and complete coincident recovery.

A third explanation that has been proposed is that we have here to deal with inflammation of the nerve, but nearly the same objections hold as to the last: the transitory nature of the affection, its symmetrical occurrence, and the difficulty of explaining the activity of the iris.

The most reasonable explanation appears to be that given by Ebert, and endorsed by v. Gräfe, to the effect that the retina and optic nerves, together with the descending tract of communication between the optic centre and the third nerve, are unaffected, but that an effusion takes place either into the cerebral ventricles or into the substance of the brain, effecting the compression of the tract of communication by which the optic nerves are connected with the grey matter of the cerebrum. This view seems to be adapted to meet all the difficulties of the case, and to account for the loss of vision on both sides, with persistent activity of the irides; the serious concomitant general symptoms, vomiting, convulsions, &c., as well as the transitory nature of the affection.

The only objection that can be raised to it is that taken by Henoch, who points out that similar transient attacks of blindness have been met with by Ebert, himself, and others, in recovery from typhus fever, often associated with paralysis of speech, in which we can scarcely suppose any effusion to occur; and Henoch is of opinion that the attacks observed in both sets of cases are dependent only upon disturbance of the innervation, of what nature he does not exactly say, but which I conclude,

from the general tenor of his observations, he thinks due to simple anæmia.

The conclusions, however, that M. Ebert draws from his cases, and which the case I have here recorded supports, are—1. That loss of vision may occur transitorily in zymotic affections. 2. The duration of the blindness may vary from 20 to 60 hours. 3. The prognosis is better than in any other form of anaurosis. 4. The prognosis is established by the ophthalmoscopic appearances.

## A CRITIQUE OF DR. BEALE'S THEORY OF LIFE.

BY JAMES ROSS, M.D.

A THOROUGH believer in the physical theory of life, who is accustomed to look upon the vital theory as an exploded doctrine, is too apt to imagine that it is so regarded by all others. This, however, is not the case. Dr. Beale has recently written articles and books in which he advocates the vital theory with enthusiasm, and criticises his opponents of the physical school with some degree of asperity. It will be both interesting and instructive to subject Dr. Beale's arguments to criticism, especially as the question is at the root of all practice.

Our first task is to ascertain what is Dr. Beale's theory—a task not so easy as it might at first appear, since he nowhere gives a connected representation of it; hence it must be arrived at by collating isolated passages scattered through his writings. But this is not the greatest difficulty. He frequently announces some of his most distinctive opinions in the form of questions to his opponents; hence our only alternative is to regard him as holding the opinions implied in the questions, for if he does not, it is mere trifling to ask such questions. But in order not to do any violence to the views of Dr. Beale, I shall endeavour to compare any opinion derived from his questions with those derived from his direct assertions, and by conjoining them like the pieces of a Chinese puzzle, so to form a connected whole.

Dr. Beale says that he attributes vital phenomena to "vitality, or vital power or force, or to life."<sup>1</sup> Hence it may be inferred that he uses these words as synonymous terms for one and the same power. Let us ascertain, then, what are the attributes he assigns to it. From the title of his recent work, "The Mystery of Life," it

<sup>1</sup> Protop. p. 73.

is evident that he regards this power as a mysterious one: "it is beyond the range of physical and chemical investigation, and cannot be rendered evident to the senses."<sup>1</sup> And it is not only a mystery, but a *special mystery* which presents itself nowhere in nature except in living beings: "it is a power, force, or property of a special and peculiar kind, temporarily influencing matter and its ordinary forces, but entirely different from and in no way correlated with these."<sup>2</sup> This force, however, is not a property of matter, since "it is essentially different in its actions from all acknowledged properties of matter."<sup>3</sup> It is not matter, since, as already quoted, it is a power "temporarily influencing matter and its ordinary forces." It is not mind, since "life exists before brain and nerves, the instruments of mind, are formed."<sup>4</sup> But although this power is not mind, it possesses the distinguishing characteristic of mind, since it is an intelligent principle. Several passages might be quoted to prove this, but the following will probably suffice. Dr. Beale thinks that some force devotees "hold that form is but the image impressed by force. But unless something directs the force, will form appear? Is not that something other than the force? is it not master and director of the force? Are not force and matter his tools, and does not form result from the particular way in which the *master, director, and designer* works? Whatever name be given to this something, I cannot conceive that it can be a correlate of material force."<sup>5</sup> Again, Dr. Beale thinks that the evidence in favour of the existence of this force is similar in nature to the evidence for the existence of God; otherwise no intelligible meaning can be attached to his question when he asks why should a belief in a vital power "disqualify a man for scientific inquiry, any more than a belief in a God disqualifies him from pursuing successfully observation and experiment?"<sup>6</sup> But although the evidence in favour of both beliefs is similar, this power is not God, since Dr. Beale regards it as a special mystery, and I do not suppose that he would exclude the operation of God from the rest of the universe. This power is more than a simple expression of the workings of an Infinite mind, since it has an objective existence. "Nature's 'apparatus' is a tiny mass of clear, transparent, structureless stuff; it may be

<sup>1</sup> *Myst. of Life*, p. 6.<sup>2</sup> *Protop.* p. 1.<sup>3</sup> *Ibid.* p. 74.<sup>4</sup> *Protop.* p. 61.<sup>5</sup> *Myst. of Life*, p. 11.<sup>6</sup> *Ibid.* p. 6.

less than the  $\frac{1}{100000}$  of an inch in diameter. This is also Nature's laboratory. Here her chemist, 'life,' is at work, and his work is perfect."<sup>1</sup> Again, if this power has an objective existence, it is more than the product of a finite mind contemplating the operations which take place in living beings: and, lastly, Dr. Beale maintains that it is not a phenomenon. "Is it correct," he asks, "to speak of a condition or state which cannot be rendered evident to the senses as a phenomenon?"<sup>2</sup> If, therefore, it is not a phenomenon, it must be a *noumenon*, entity, or existence *per se*.

We are now in a position to arrive at some idea of the nature of this vital power, more, it must be owned, by enumerating what it is not than by any positive attributes which can be assigned to it. This force is not matter, nor an attribute of matter, nor is it at all correlated with material forces; it is not mind, either finite or Infinite; it is not merely an expression of the workings of a Divine mind, nor is it the product of a finite mind contemplating the operations which take place in living beings; and, finally, it is not a phenomenon. The positive assertions which can be made regarding it are, that it has a real existence, that it is intelligent, that the physical forces in living beings are subject to its control, and that it is a special mystery. It is, in the language employed by Boerhaave when commenting upon the "Archæus" of Paracelsus and Van Helmont, a power "*quod nec mens esset cogitans, neque corpus crassus atque vulgare, sed aliquid medium, quod omnes functiones corporis sani dirigit*,"—a third substance superadded to animal and vegetable organisms, which presides over their changes, but which cannot be rendered evident to the senses and is beyond the range of physical and chemical investigation.

I shall now examine the evidence which Dr. Beale adduces in favour of the existence of this power. But in dealing with his arguments we meet with the same difficulty which was encountered while endeavouring to get a correct idea of his vital force. His mode of warfare, whether aggressive or defensive, is as desultory and unmethodical as that of a franc-tireur. I have therefore examined all the arguments, both constructive and destructive, scattered through his controversial works, and find

<sup>1</sup> *Myst. of Life*, p. 12.

<sup>2</sup> *Protop.* p. 76.



that, on analysis, all those which have any bearing upon the vital as opposed to the physical theory of life can be reduced to four principal and two or three subordinate arguments. Want of space will not permit me to make many quotations from Dr. Beale's works; but I shall give references to them in foot notes, and my readers must judge for themselves whether I do any violence to his views.

1. The first argument I shall notice is, "that facts which he has demonstrated, and phenomena which he has observed, render it impossible for him to assent at present to the dogma that life is a mode of ordinary force."<sup>1</sup> It must be a certain interpretation of these facts and phenomena which produces the impossibility, and not the facts and the phenomena themselves. That this is the case is rendered evident from the prominent position which his theory of the anatomical unit occupies in one of his controversial works.<sup>2</sup> But why should this theory render it impossible for him to believe that life is a mode of ordinary force? Because "the difference between the living state and the dead state is ABSOLUTE."<sup>3</sup> Dr. Beale finds this "absolute" difference because he has first put it in the definitions.<sup>4</sup> If *germinal matter* is defined as matter which is living, and *pabulum* and *formed material* as non-living, the difference between these as regards life must be absolute. It constitutes, therefore, a grave objection to the terms adopted by Dr. Beale to designate the different parts of the cell, that they involve a theory; nor does "Bioplasm,"<sup>5</sup> the new name by which he proposes to designate the germinal matter, at all remove the objection. Dr. Beale's terms are good examples of the "question begging appellatives." And this is true, whether he himself has been misled by them or not. My own opinion is that he has been misled by them, and that his investigations have been very much hampered and marred by the adoption of such terminology; and that he has thus been led to think that there are differences in nature where none exist. But suppose this theory to be true, how can the absolute difference between the living and non-living render it impossible for Dr. Beale to believe that life is a mode of ordinary force? Why should he resort to the hypothesis of a vital force

<sup>1</sup> *Myst. of Life*, p. 5.

<sup>2</sup> *Protop.* p. 31 et seq.

<sup>3</sup> *Ibid.* p. 6.

<sup>4</sup> *Protop.* p. 53.

<sup>5</sup> *Disease Germs*, p. 12.

in this case and not in others, where the transition from one state to another is equally sudden and complete? If a spark of fire is brought in contact with gunpowder, there is instantly an explosion, the powder disappears, and a cloud of vapour remains. The difference between the powder and the vapour is as absolute as that between the Bioplasm and the formed material; and there is as much reason for assuming the existence of a mysterious power behind the powder to account for the vapour, as there is to assume such an existence in the Bioplasm of Dr. Beale. These considerations will show that if Dr. Beale's theory of the anatomical unit were true, it does not render it at all impossible for him to believe that the vital force is neither more special nor more mysterious than the ordinary forces concerned in the explosion of gunpowder.

2. Another argument is, that he holds the idea of vital power, "because the facts I know cannot be explained without the hypothesis."<sup>1</sup> Two questions present themselves: Are the premises true? and, if true, does the conclusion follow? I shall examine the latter question first; and this will enable us to determine how far this hypothesis affords an explanation of vital phenomena in the absence of any other. Does this hypothesis fulfil the minimum requirement of a scientific hypothesis? An erroneous hypothesis may do signal service to science by giving an impulse to investigation in a particular direction. One thing, however, must characterize a hypothesis whether it be true or false, if it be useful to science; and that is, that it be capable of being confirmed or subverted. But a hypothesis like the one under consideration, incapable of being verified by any conceivable observations or experiments, has no *locus standi* in science, nor does it come within the scope of its investigations. It is pleasing to find Dr. Beale acknowledging that there is one requirement which even a provisional hypothesis must possess. He says that "provisional hypotheses may be advanced if only to mark the paths already traversed in the course of our difficult and never-ending exploration."<sup>2</sup> But how can an immaterial power which is beyond the reach of observation and experiment mark a path already traversed? This principle is antecedent to all vital phenomena, and cannot, therefore, be employed as a

<sup>1</sup> *Myst. of Life*, p. 63.

<sup>2</sup> *Protop.* p. 77.

mark to indicate the progress of any investigations into the phenomena of life. Therefore this hypothesis fails to satisfy even Dr. Beale's test; and, as a final condemnation to the hypothesis, it does not render the phenomena of life one whit more comprehensible. An explanation means the interpretation of the unknown in terms of the known; but here is an attempt to interpret the unknown by the still more unknown—to render intelligible the inexplicable by the incomprehensible. If this hypothesis does not satisfy these minimum requirements, it is perfectly superfluous to apply to it the more recondite test known in logic as the Law of Parsimony.

But let us now turn to the premises, viz. that the phenomena of life cannot be otherwise accounted for. My readers will be surprised to hear that he nowhere attempts to prove this proposition. He frequently asserts that the chemico-mechanical school of medicine *have not*<sup>1</sup> afforded a sufficient explanation to the phenomena of life; and in this opinion I agree; but it avails him nothing in establishing his conclusion. He tells us that he holds the conclusion because the facts *cannot be* explained without it; and then justifies the conclusion because the facts *have not been* explained *without it*. It is needless to point out the difference between the two propositions, that the facts *cannot be* and that the facts *have not been* explained; and yet Dr. Beale passes from the one to the other apparently quite unconscious of the jump he has taken. If he could prove that the phenomena peculiarly distinctive of living beings *cannot be* explained by any combination of physical causes; if, in short, he could settle for all time that the case is hopelessly beyond the reach of observation and experiment, he would have some show of reason for resorting to the assumption of a specially mysterious entity; but the only thing he endeavours to prove is, that the phenomena of life *have not been* hitherto explained; and from this he infers that he is justified in assuming the existence of a specially mysterious entity to account for them. He asserts that the phenomena have hitherto proved inexplicable; but the inexplicable of to-day will, by the discoveries of to-morrow, be rendered perfectly explicable; and the science of the future will render the phenomenal mysteries of the present

<sup>1</sup> *Myst. of Life*, p. 51.

as intelligible as the science of the present has rendered those of the past. If there were no inexplicabilities in nature, both organic and inorganic, investigation would be impossible. We might teach science, but we could not investigate. Does Dr. Beale think that, prior to the time of Newton, philosophers were justified in assuming the existence of a mysterious entity to account for the motion of the heavenly bodies? If not, why does he think that the inexplicabilities of the present justify him in making such an assumption? By parity of reasoning, all the absurdities and superstitions ever believed by mankind could be justified, and we are carried back to an age when not only in the phenomena of life, but in the results of what Dr. Beale would call the *ordinary* forces of matter—in the volcano, and earthquake, and storm—men recognized the agency of unseen spirits.

As a mere outcome of this mode of argumentation is the sneering way in which Dr. Beale alludes to the argument of his opponents derived from the "tendency of investigation." He thinks that scientific doctrines "should be supported by facts rather than by the authority of tendencies and prophecies."<sup>1</sup> The argument of his opponents is simply this—that the great law of the uniformity of Nature has hitherto been found true wherever the phenomena of the universe have been fully investigated; that no event has ever been found to contradict the law, although it might appear contrary to it at the time; that during the progress of discovery, every event which has been reclaimed from the inexplicable to the explicable is an additional proof of the universality of the law; and upon this is founded a legitimate expectation that future investigations will extend the law to what at present appear the greatest inexplicabilities. If the formation of such an expectation be to assume prophetic functions, it is a function which I would advise Dr. Beale to respect. It was by this function that Newton unravelled the mechanism of the motion of the planets; and by a less rigid, but still legitimate application of the same function, that he was enabled to anticipate some of the scientific discoveries of modern times, such as the combustibility of the diamond. The whole science of the present day has no greater validity than the law of uni-

<sup>1</sup> Protop. p. 2; and Myst. of Life, p. 16 et seq.

versal causation gives it, and the objective evidence for that law is this very "tendency of investigation" which Dr. Beale so much derides; hence his opponents may well bear his sneers with equanimity.

3. His next argument is, that "as the movement" (in living matter) "is peculiar, its cause must be peculiar; and it seems more reasonable to attribute this to some peculiar power manifested by living matter only than to an antecedent phenomenon."<sup>1</sup> If when Dr. Beale says that "the cause of the movement in living matter must be peculiar," he only means that the *collocation of physical causes* which makes up the total cause of the movement must be peculiar, every one of his opponents will agree with him; but by a "peculiar cause" he means a mysterious entity beyond the reach of observation and experiment. If, however, as has already been pointed out, the inexplicable does not justify us in assuming the existence of such an entity, much less does the peculiar justify us in making such an assumption. Let us see where such an argument would lead us. If we are to assume the existence of a peculiar principle to account for every peculiarity in Nature, we must assume such an existence to account for the things denoted by every general name. Suppose we take the term Man as an example. We form him into a class by himself, because he has peculiarities by which we are enabled to distinguish him from the rest of the universe. According to Dr. Beale's principles, we must assume the existence of a peculiar principle to account for Man. But not only is Man distinguished from the rest of the universe, but Man is divided into several races, because each race has certain broad peculiarities by which it may be distinguished from the rest of mankind. Hence we must assume the existence of a peculiar power to account for each race; and by similar reasoning such an assumption must be made to account for each individual man. But the process does not stop here. Man is subject to disease, and disease can be classified under so many general terms. But disease can be classified just because we are enabled to seize upon the points in which certain individual cases resemble others, and upon the peculiarities by which these are distinguished from all other diseases; hence there must be an

<sup>1</sup> Protop. p. 76.

entity to account for those peculiarities. In short, these principles lead us straight to the scholastic realism of the Middle Ages—to the second substances and universals of the schoolmen—to the formless matter and the matterless form of the Aristotelian metaphysics.

4. Another argument is, that because the phenomena of life *differ* from those of the inorganic world, we cannot argue from the one to the other. Professor Owen maintains that there is nothing peculiar to living beings in their power of selecting certain constituents, because a magnet selects also. Dr. Beale's comment is, "let the reader consider how different is the process called selection in the two cases;"<sup>1</sup> and because they are different he thinks we cannot infer from the one to the other. If there were no differences between the properties of a magnet and those of living beings, they could not be distinguished by different class names; but the question is whether, amidst all the multifarious points in which they differ, there are not points in which they agree; and if there are, whether the argument of Professor Owen is founded upon the agreements, and not upon the differences. If it is, the argument is valid. The argument is this: Both a living being and a magnet possess the property of selecting certain kinds of matter, and although this property manifests itself differently in each, there is this much of agreement between them, that both are equally mysterious and inexplicable; and if we are not justified in assuming the existence of a specially mysterious entity to account for the property in the one, no more are we in the other. The argument, therefore, is from the points in which the one property agrees with the other, and has all the validity which any argument can possess.

Dr. Beale has, by one of his arguments, when followed to its logical issues, landed us amidst all the superstitions of the Middle Ages; by another, amidst the follies of the schoolmen: and when this last argument is followed to its consequences there is an end to all science; since, if in arguing from one thing to another the inference is invalid if it can be proved that these things differ in certain particulars, induction is impossible; and our knowledge will be reduced to that of individual experiences which come and go without regularity or constancy,

<sup>1</sup> Protop. p. 5.

and chaos will take the place of order and harmony. It is not asserted that Dr. Beale would draw these inferences,—indeed he is very wroth with Dr. Gull for hinting that one who adopts the vital theory “must therefore hold life to be no proper object of investigation;”<sup>1</sup> but this only shows that he can assent to two opinions which, when brought into juxtaposition, are found to be mutual contradictories.

If any of my readers can find a real argument, either constructive to the vital or destructive to the physical theory, in Dr. Beale's controversial works, which cannot be brought under the four just examined, he is more keen-sighted than I am. He will find the doctrines of the physical school held up to ridicule, sneered at, and pronounced incredible; but I shall not comment upon such a method of dealing with a grave scientific subject. Dr. Beale, however, brings two or three allegations against his opponents, which I can only briefly examine.

1. The first charge is that the physical biologists deny that there is a mystery in life. This allegation is not expressly stated, but is implied throughout his writings. But the physical school do not deny that there is a mystery in life, but they do deny that it is a special mystery. Dr. Beale, in his investigations into life, has discovered a great mystery; but if he will dig a little deeper he will discover that it is only part of a great and general mystery which meets us at every point of the universe, and in every fact of causation and of co-existence—a part of that inscrutable mystery which underlies all phenomena whatever.

2. Another charge is, that his opponents overlook the design displayed in the construction of living beings.<sup>2</sup> When Dr. Beale brings such an allegation against his opponents, it appears to me that he has a very inadequate idea of the modern conception of science. That conception may be right or wrong; but it is one which knowingly and wilfully excludes such questions as design and constructive skill from the domain of science. What his opponents assert is, that science is never so successfully pursued as when it is completely emancipated from the consideration of First and Final Causes, the consideration of which they relegate to the domain of metaphysics.

3. Dr. Beale's last charge is, “That the physical school should

<sup>1</sup> *Myst. of Life*, p. 3.

<sup>2</sup> *Ibid.* p. 11.

try to stop all inquiry at this very point is exactly what might be expected."<sup>1</sup> Beside this passage I will quote what Haller says regarding the cause of the "*vis insita*" of muscle. "It is a power," he says, "distinct from every other power, and to be referred to the sources of motion of the ultimate cause of which we are ignorant." Haller finds by experiment that a muscle contracts on the application of appropriate stimuli; he accepts this knowledge as an *ultimate fact provisionally*. Dr. Beale, on the other hand, finds actions in living beings which he cannot explain, and he resorts to the assumption of a *mysterious entity provisionally*. The former confesses his ignorance; the latter imposes upon himself by adopting a spurious explanation which has only the semblance of knowledge. I leave my readers to decide whether the position occupied by Haller or by Dr. Beale has the greatest tendency to check investigation.

Since writing the above I have read Dr. Beale's article in the *Contemporary Review* for April, on "Physical Life Theories and Religious Thought;" but I do not require to modify a single word of what has been said. Dr. Beale's theology appears to me to be more dangerous and erroneous than his science. His conception of God must either be that of a Being who has since the morning of Creation ceased to trouble Himself with physical agencies, and restricts Himself to a superintendence of the operations carried on in living beings; or that of a Being who contents Himself with a very general superintendence of the whole universe, both organic and inorganic, while a subordinate Being—a Demiurgos—takes special charge of vital changes. I do not suppose there is a theologian in the world who would endorse either of these conceptions. Dr. Beale never appears to have a glimmering of the grand conception which regards the ordinary and the extraordinary, the physical and the hyper-physical, the natural and the supernatural, as all alike Divine.

<sup>1</sup> Protop. p. 77.



## ON SOME POINTS OF UTERINE THERAPEUTICS.

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It is undeniably true that the present state of therapeutics is one of chaotic confusion. Probably at no time in the history of medicine have there been greater differences of opinion in regard to the healing power of drugs than exist in our day. In some quarters it would almost appear as if drugs were to be discarded altogether from the armamentarium of the physician, or to be used only *pro forma* for the patient's satisfaction, to secure some exercise of his faith in our skill, and to assure him that we do indeed possess "the gift of healing." In other directions medicines are given in such profusion as betokens either the blindest routine or the possession of an amount of confidence in their therapeutic value which would be simply charming for its childlike simplicity, if it were not trifling with great issues, and indicative of a frame of mind which is the greatest stumbling-block in the way of any scientific advance in practical medicine. As a set-off, however, against these two extremes, it must be allowed that, in spite of the difficulties which surround the question, real, steady, and continuous advance is being made, and the methods of investigation which are now being employed, and the various means at our disposal for estimating with greater exactness the progress of disease, are so many checks against possible mistakes, and afford a better guarantee that the knowledge we acquire will be permanently useful to our successors.

The charge is often made against so-called "specialists" that their practice partakes far too much of a routine character; by which I suppose is meant, that they treat the patients more

according to traditionary rule, with little regard to the special peculiarities of their cases, and not unfrequently in opposition to every sound pathological principle. It may be convenient to some, possessing no special knowledge which enables them to speak on such a subject, thus to rail at those who spend a large portion of their time in investigating a particular class of diseases; but the practical value of such objections is best estimated by the fact that probably most of us would, in the event of our being, either personally or in the case of those belonging to us, affected with any special ailment, seek the advice of some one who had made that particular disease his principal study. At the same time, though I by no means admit that those who work more especially in the field in which I am myself a humble labourer are *ipso facto* "specialists" any more than they are who practise in either of the other two great departments of the healing art, yet, when I look abroad and see how many of the diseases peculiar to women are treated, not so much by those who make such diseases their chief study as by the great mass of practitioners who have to treat disease in any and every form in which it comes before them, I am forced to allow that in this particular class of diseases the therapeutical status is not so sound or scientific as it ought to be, and I very much question whether it has made equal advances with those which have been made in the other departments of practice. Indeed, one, and that the chief, object of this communication is to show the utter inutility of not a little of the most commonly adopted treatment of uterine or ovarian disease, because I feel that until we have abandoned that which can be proved to be bad, we are not likely to look about for anything which may be better.

In a former communication (*vide* the *Practitioner* for November 1869) I descanted upon "The Uselessness of Drugs in the Treatment of Organic Growths," limiting my observations chiefly to those growths which are met with in the uterus and ovaries. I stated my conviction, arrived at after long and careful observation, that though there is a fair field for the employment of drugs in the medical treatment of uterine or ovarian tumours, their utility is limited entirely to the consequences of those growths, and no good whatever can be effected in the growths

themselves. I combated the idea of drugs having the smallest power in reducing these or any similar morbid growths, or of arresting their further development, whether they are applied externally, as in the case of iodine inunction, or are taken internally. Consequently, I argued, the further exhibition of such drugs ought in common honesty to be abandoned; for that until useless remedies are cast aside, it is hopeless to think of useful ones being discovered.

There is ample room for pursuing the same kind of argument in regard to much that is still practised in the treatment of other uterine diseases. Anything more purposeless, more wanting in point and definiteness—in a word, more unscientific or unreal, than is a large part of the present practice of uterine therapeutics, I cannot well conceive. It is superior to facts, and it contradicts reason; yet, though it may be somewhat, I do not think it is much, worse than some of the practice in other departments of medicine, while there are undoubtedly “extenuating circumstances” in the former, in regard especially to the objections frequently made against vaginal examinations, which certainly do not obtain in the latter.

I believe that in order to remedy this state of things, as far at least as our present knowledge of therapeutics enables us to remedy it, the one thing which is wanted more than anything else is greater accuracy and precision of diagnosis; next to that, the exercise of a little common sense and thought. The former would inevitably lead to a more exact nomenclature, and to clearer ideas of what we have to treat; for I am sure that no greater hindrance exists to advancement in uterine therapeutics than the careless adoption of meaningless terms, and the consequent employment of remedies which, as it were, aim only at covering the conditions that are implied by the term used. For instance, I am frequently having cases sent to me which are described as “aggravated cases of leucorrhœa which have baffled all treatment.” No wonder! The discharge from the vagina has been looked upon as the one evil to be remedied: lotions of one kind after another have been tried; astringent medicines of all sorts have been given with lavish profusion, but the disease (*sic*), if checked for a time, has always returned. Of course it has; for it has never been touched, it has not even been recognised.

The so-called leucorrhœa is no disease *per se*; it may have its origin in fifty different ways: it may be vaginal, or it may be uterine; it may be constitutional, the result of some diathetic taint; or local, the consequence of uterine disease, uterine displacement (itself the result of other lesions), ovarian disease, functional or organic; or it may result from local cellular or serous inflammation (pelvic cellulitis, pelvic peritonitis); lastly, it may be due to functional derangement of organs far removed from the pelvis, as the stomach, liver, &c. Nothing but a careful scrutiny of the whole case, and a resolute turning away the mental eye from the one symptom in order to discover its probable origin, can hold out any hope of success in the treatment of such a condition. When that is discovered, but not till then, can we estimate the true import of leucorrhœa.

Take another illustration, not an unfamiliar one, I am sorry to say. A married woman, who has been many times pregnant, has suffered for long past from constant pains of a dull aching character in and about the pelvis and half way up the back; menstruation has been excessive, and there has been a constant discharge from the vagina of a muco-purulent character. For many months past she has been treated for "an ulcer of the womb" with applications of nitrate of silver two or three times a week, but notwithstanding all this diligence—may we not rather say in consequence of it?—the "ulceration" has not healed; it may indeed have extended. Why? The answer is not difficult. In the first place there has been no ulceration at all; and in the second place, if there had been, the treatment adopted would certainly not have succeeded. It is astonishing how popular this system of cauterisations is with a large number of the profession: and not only with the profession, but with a considerable section of the public. Many women have somehow or other, I cannot tell how or why, an immense faith in this remedy, and, unfortunately, their faith finds a not unwilling acquiescence with many practitioners. So that it has come pretty much to this: granted an ulcer, or a supposed ulcer, of the womb, the application of caustic with tolerable frequency and regularity follows as a natural consequence. Against this I desire to protest most strongly. The practice is altogether irrational and unsound; it would not be tolerated for an instant in the case

of ulceration elsewhere, and there is certainly nothing in the circumstances attending true ulceration of the cervix uteri which gives even a colourable pretext for the continuance of such practice: on the contrary, all the surrounding circumstances contra-indicate its employment. But the case is still worse in consideration of the fact—for I do not hesitate to declare that it is a fact—that not one in ten of the cases which are thus described and treated are correctly designated; that, in short, they are not cases of ulceration at all. I am, of course, speaking only from my own experience of the cases of this kind which come under my notice in hospital and private practice; and I do earnestly hope that this reputed remedy will speedily be cast aside as altogether unworthy of adoption. That it is so can hardly, I think, be doubted, when we reflect that in the large majority of these cases the so-called “ulceration” is in reality neither more nor less than an eversion of the mucous membrane lining the cervical canal in a state of extreme hyperæmia. Close examination will show a greatly swollen, puffy, and spongy state of that tissue; but its leading characters may still be distinctly made out, and the curiously pitted, strawberry-like aspect which it presents, and which no doubt has led many to believe in the existence of ulceration, is due to the highly injected and consequently swollen state of the mucous rugæ, of the uterine follicles and glands about the cervical orifice. The extent of this supposed ulcerated surface varies a good deal in accordance with the condition of the uterus itself, but we may easily increase or diminish it by a very simple process, and one which is of use in determining its non-ulcerative character. Thus, in passing a speculum, we may observe that when the instrument is pushed against the cervix its two labia are separated, and as a consequence the extent of the supposed ulcerated surface is increased: when we withdraw the speculum slowly we may observe the labia again falling together, and if we could secure a reduction of the cervix to its proper size, the everted mucous lining would be drawn in altogether out of sight, and the “ulceration” would consequently disappear.

As a matter of fact, close observation has shown me, that without any direct local treatment, other than that which aims at improving the general condition of the whole uterus, and

which in very many cases can be secured without any local treatment whatever, this eversion of the mucous membrane gradually disappears, not by any healing process, such as would be the case if it were a true ulceration, but by a re-inversion of the everted tissue. Of course I do not mean by this to say that ulceration of the cervix uteri never exists; I know that it does; but I contend that what is most commonly described and treated as ulceration comes fairly under the description given above. Now, I might adduce similar illustrations to these in regard to the use, or rather misuse, of the analogous terms dysmenorrhœa and menorrhagia, in order to demonstrate the mischief which arises from the careless employment of terms which in their proper signification have reference only to a single symptom, but which are made to designate the whole disease. In regard to "dysmenorrhœa," I think the results of insufficient diagnosis are even more disastrous, because, from the want of a scientifically exact system of therapeutics, and by a limitation of the efforts of the physician merely to the relief of pain, without a clear appreciation of that upon which the pain depends, a habit of taking stimulants, even to the extent of producing slight narcosis, has grown up, not in all cases without medical sanction, and has done much to ruin both the mental and bodily health of many of these sufferers.

These examples are sufficient to show that improved diagnosis must be the first step towards improved therapeutics in many uterine or ovarian diseases. It is not my purpose, however, now to consider how the former of these is to be secured; indeed it would not be possible to do so in such a paper as this, nor would it be fitting in a periodical happily devoted to the subject of therapeutics. I wish rather to allude to certain remedies which are of undoubted value, and the *modus operandi* of which is perfectly well known; so that their applicability to any given case will be regulated entirely by the accuracy of our knowledge of all the circumstances and conditions of the case—in other words, by a correct appreciation of what we want to do, and of the means at our disposal for accomplishing that object. In this, as in all other cases, accuracy of diagnosis lies at the root of success in therapeutics.

It is impossible for me in the limits of this paper to criticise

the value of all the remedies which are useful in uterine therapeutics. I will confine my remarks now to some of those which have a direct effect upon the blood-vessels, as there are a large number of cases in which vascular changes constitute the leading feature. Those changes may be either in the way of excess or of deficiency: and, apart from all constitutional causes, some of which are extremely important, they may originate either in the uterus itself or in the ovaries. I believe that the latter are far more commonly at fault than is generally supposed.

If the uterus be in a state of hyperæmia, from causes originating in the organ itself, we should first determine whether the condition be of an active or passive character; that is to say, whether the blood which is there in excess is venous or arterial. The therapeutical indications will vary considerably in the two cases. In the one, the active variety, the principle of treatment is, in one word, *depletive*. I do not mean in the way of general depletion, for in my judgment the cases which will warrant such a step are of extreme variety, but I have the greatest confidence in local depletion by means of leeches, which I very much prefer to scarification in the class of cases I am alluding to. Next to this, keeping the patient in a warm bath for half an hour daily, and using the warm douche for ten or fifteen minutes twice a day, will be of great service. Rest, physiological and mechanical, must be rigidly enforced, for without this no treatment will be successful; a single act of sexual intercourse will undo the work of weeks of treatment. As medicines, the class of saline aperients, and the iodo-bromated waters, such as the springs at Creuznach, or of Woodall in Lincolnshire, or similar ingredients artificially prepared, are the remedies which will be found of most value. Indeed, if the diagnosis be correct, and the case be one such as I have described, the result of this treatment may be regarded with as much certainty as that of any other disease.

But, supposing that the hyperæmia be of the passive variety, that is, venous: then, such a plan of treatment as I have here sketched out will be worse than useless, it will be positively mischievous. The condition is one of laxity, and the venous sinuses are gorged in consequence; the whole uterus is bulky, but it is also flabby and atonic. The principle of treatment in these

cases therefore is, in one word, *tonic*: we must restore tone to the relaxed uterine fibre, and in so doing we shall, as it were, squeeze out by a microscopic process of muscular contraction the excess of blood in the uterine venous system. No abstraction of blood will avail for this purpose; on the contrary, it will do harm. But by the application of cold, in the form of cold douche, sent in a full stream, and vigorously, for ten minutes twice a day, we shall secure good results. Physiological rest is not a necessity here, but mechanical rest should as far as possible be enjoined. The local application of galvanism, or electricity, I have found in many of these cases of great value: the principle of its application is of course the same as that of cold. I usually place one pole just above the pubis, and the other I introduce either into the vagina, up to the cervix uteri, or sometimes I pass it within the uterine cavity itself, in the form of a uterine sound, which, however, is isolated to within about one inch of its upper extremity. The disadvantage of this last is, that it requires the medical attendant to use it, whereas the bougie which is passed merely up to the cervix uteri can be used easily by the patient herself, and does not require an assistant. I generally order the current to be passed for about ten minutes daily.

In the way of drugs, there is nothing so useful or powerful, nothing in fact which is so direct a tonic to the uterus, as ergot. In a former communication in the *Practitioner* (*vide* vol. iii., p. 70), on "The Therapeutical Uses of the Ergot of Rye," I mentioned more particularly the cases in which this agent is applicable, and it is especially so in those I am now considering, where the uterus is large, its tissue lax and spongy, its venous sinuses patulous, and its general aspect indicative of passive or atonic hyperæmia. Under its influence, aided by the other treatment I have indicated, all these conditions one by one disappear, and the uterus assumes a much more healthy appearance. Any one who reflects upon the known physiological action of this drug, and who bears in mind the condition of the uterus in a state of venous hyperæmia, will have no difficulty in recognising the cases in which to test its therapeutical value. But it sometimes, indeed not unfrequently, happens that ergot cannot be borne by the stomach, which almost immediately rejects it. In such cases I have quite recently been using it as



a local application, in the form of vaginal pessaries, made with glycerine and gelatine: six grains of ergotine may thus be applied, and will be equal to about a drachm of the ergot. This should be used twice a day. At present I am unable to speak very positively of the results, as I have only tried it in two cases, but in one of them it certainly seemed to answer well, and I fully anticipate it will do so.

There are one or two other drugs possessing similar action, viz, borax and cinnamon. From both of these I believe that I have seen good results in cases in which they were given because ergot disagreed; but I think they are certainly inferior to the latter, and I know of no other drugs which really possess this power, though many are reputed to do so.

But the uterus may be in a state of hyperæmia from causes acting, as it were, from without, though still of local as opposed to constitutional origin. I refer to cases due to ovarian mischief. Here the morbid action, as far as it affects the blood-vessels, is allied somewhat to that which occurs during menstruation. The principle of treatment in such cases should of course be applied to the ovaries; for it will be of little use merely to treat the uterine hyperæmia on the depletive method, while we leave untouched the ovarian disease, which is the veritable *fons et origo mali*. At the same time depleting the uterus will indirectly relieve the ovaries: warm baths will also be of great service; and hot poultices over the hypogastrium. The value of both these will be greatly enhanced by the addition, to the former of an ounce of the tincture of belladonna, and to the latter of ten grains of the extract thinned with glycerine. Vaginal pessaries containing two grains of the extract of belladonna, or ten grains of conium, will also be useful. Of the internal drug administration I have found most benefit from full doses of bromide of potassium; it seems to me to relieve pain by diminishing undue vascularity of the ovaries, but whether this effect is direct upon the vessels, or indirectly through the nerves, I do not know. Nor does it matter much for my present purpose, for I only wish to point out the principles of action which, in my judgment, founded entirely upon clinical observation, ought to guide us in the treatment of those multifarious

conditions of the uterus in all of which undue vascularity is the one prominent feature.

I repeat, that in order to be even moderately successful in uterine therapeutics, we must be careful about the accuracy of our diagnosis; and especially should we try to shake ourselves free from the many crude and unscientific notions which have sprung up from the careless employment of terms having a very limited pathological significance, and tending therefore to narrow our view of the disease, and so to warp our judgment in regard to its treatment.

## THE TREATMENT OF THE SPECIFIC AND SEPTIC FEVERS.

BY DR. CLIFFORD ALLBUTT.

THE tendency of man in general, and of medical men in particular, to run in grooves is too familiar a saying too need repetition, but it would be hard to find a more apt illustration of this natural law than in our writings upon the treatment of fevers.

The present paper has arisen by a process of germination from a somewhat larger disquisition upon which I have been recently engaged, and which involved the necessity of looking through the many recent essays and treatises on the Continued and other fevers. Admirable, very admirable, as are many of these, yet it has been a matter of much disappointment to me to see what a meagre code of therapeutic instruction can be based upon them all. I am not sorry to avail myself of the excuse of brevity which relieves one from the duty of examining these authors severally, for my purpose will be as well served by a few general reflections. From the present point of view the most important reflection I can make is this somewhat painful one—that treatment is seldom made a primary object in treatises on the fevers; often it scarcely occupies even a secondary place. In too many cases the author, after making many acute and valuable observations upon the causation, pathology, and clinic of the diseases, seems to say that a few words in conclusion will be expected of him in the way of therapeutics; that no doubt the reader is conscious that he, the writer, knows little or nothing in reality about the treatment of fevers; that in fact he does not believe there is much treatment of fevers to be had. Of course the patient will be placed in an airy room, plied properly with food, varied with a few doses of an acidulated placebs, the skin of his

back washed and cleansed, alcohol given according to the rough calculations of the finger on the pulse; and finally a few passages are quoted or appropriated from Graves about opiates and their allies, with the indications for their use.

When we turn to writings in which treatment is more earnestly thought upon, if we find more intensity we can hardly congratulate ourselves on more adequacy. The hugging of old grooves is still apparent; old antiphlogistic doctrines are picked to pieces, and new ones are brushed out and displayed; but of fresh analysis and acute adaptation of means to rapidly changing phenomena there is none. Learned articles, learned essays, and learned volumes are filled nowadays with denunciations of an imaginary Todd, who led away the youth like Socrates of old, and who is supposed to have drenched his patients, old and young, rich and poor, one with another, with incredible and inexorable doses of alcohol.

For this imaginary being to say that a person was ill of a fever was enough,—in drams of strong waters lay his only safety. That such a routine system is abroad, and is the practice of persons who fancy that they are carrying out the directions of a great and now much underrated teacher, is perhaps but too true; and I do not deny that formal protests against “indiscriminate stimulation” may be necessary. At the same time it is strange and painful to think that we are thus always backsliding into the medical errors of the Lower Empire, when “a name and a formula” made up the system of therapeutics, and when the term “medicine” carried with it the meaning of an elixir or a charm. It is my intention to publish at length certain views to which I have been led during a long practice among cases of fever; at present I ask permission to publish the heads only of my therapeutical views as I give them in my lectures on the “Practice of Medicine” at Leeds.

In the first place, nothing is more destructive to all genuine therapeutics than the theory of disease which I may call the “typical” theory. It is but a refinement of the metaphysical or entity theory, is nearly as untrue, and nearly therefore as mischievous. No case of disease is anything more than a series of phenomena; a series to the formation of which two varying factors have always gone—an organism, and the medium in which that

organism lives. Given some disturbance in the medium, the equilibrium mobile is overthrown, and the organism must pass through certain definite changes until the first or some other position of equilibrium is regained. Now, these changes vary with various organisms, varying widely between organisms of different orders, and they vary also with the various kinds of change in the medium. Some of these latter changes are highly special and peculiar, such as the change which induces scarlatina and small-pox; others are of a less special and more general kind, such as the changes which induce intermittent fever or pyæmia. Now, the more special the cause, the greater the variations in particular instances; on the other hand, the more general the cause, the less will be the differences in each, as the changes are then chiefly seen in those broader characters which are uniform for all or many organisms. All warm-blooded animals, for example, when hung up with a rope round their necks, present like changes; when subjected to the action of common poisons, such as opium, the uniformity of their reactions is less; and when subjected to highly special poisons, like those of the specific fevers, we find a very wide difference in their various reactions, a difference so wide that the identity of the cause has often remained unknown and is constantly overlooked. So for individuals of the same family and species: the more special the cause of change, the greater will be the variations in the reactions in each, variations which depend upon the familiar truth that no two persons are exactly alike.

The same reasoning must now be carried a little further. The less special the processes affected by the disturbance, the more will the symptoms of their disturbance resemble one another in various persons. Hence, not to be tedious, we find a great resemblance in the effects of these influences which chiefly disturb the process of respiration; while the same poison affects the nervous system very variously in various persons. It is clear, therefore, that some remedies, those which deal with fundamental and common disturbances, must have a wide application; while others, which deal with the disorders of highly special processes, need very delicate handling, and can scarcely be applied according to any general rules. It is not sufficient, then, to take each fever as a separate disease, but we

must analyze them and ascertain what symptoms are fundamental and common to all, what symptoms belong to orders of some but of less generality, and what again are peculiar or even confined to the particular fever under observation. For phenomena of the most general kind we can prescribe remedies of general application; for those of the last kind we can scarcely make any general rules at all. To cut a very long matter very short, I find the following classification a good one for practical ends; it does not refine too much, while on the other hand it expresses differences which it is dangerous to overlook. If we confine our attention, as now we must, to fevers, we find a number of symptoms which are rarely or never absent, and as these either depend upon increase of free heat, or the free heat on the other hand upon them, we may class them under the name of (1) the *Febrile* symptoms: these, which are also common in other diseases, are increase of temperature, quick pulse, disappearance of water, loss of bodily weight, and so forth. The second class of symptoms may be called the *Carbonic* symptoms: these can be artificially produced by poisoning with carbonic acid, or by simply arresting the blood in the lungs, and are well known to consist of weight in the head, giddiness, extreme prostration of muscular power, pallor, sweat, dyspnœa, and coma. A third convenient class may be made of the *Uræmic* symptoms: these are due to the retention of products of histolysis in the blood. These, such as vomiting, epistaxis, diarrhœa, delirium, stupor, and some of the so-called "typhoid" symptoms, need not be further described. The fourth class consists of such symptoms as are peculiar to the one kind of disease in hand: they may be called the *Specific* symptoms, and are fewer perhaps than are generally supposed. Now, when we have these four sets of coinciding, overlapping, or interlacing symptoms, each set having its own causes, is it not absurd to talk of any remedies of universal application, or to split hairs about the number of cases of fever which can do with and without alcohol, when the great question is, for what set of symptoms is alcohol to be given, if at all; and if so, when and in what varying quantities? Each set of symptoms needs its own treatment; and let us see what difficulties meet us here, what refinement of diagnosis in

each case, and what a delicate adaptation of means to ends such treatment demands.

It is often difficult or even impossible, in the first place, to say to which category any given symptom, such for instance as semi-stupor, belongs. Suppose, however, that we settle this, as approximately we must settle it if we mean to act at all; and let us take the Febrile symptoms at the outset.

I am quite satisfied that in the treatment of these symptoms alcohol is one of our least certain means. Increased temperature has its own direct evil, the evil of excessive waste of tissue with dissipation of force, and it tends rapidly to set up other symptoms indirectly. It tends, for instance, to enfeeble if not kill white blood corpuscles, which then stagnate in all the finer capillary systems; in the lungs giving rise to "hypostatic pneumonia," dyspnoea, and "Carbonic symptoms;" in the brain giving rise to delirium and coma (Bastian); in the kidneys giving rise to the "Uræmic symptoms,"<sup>1</sup> and so on. Therefore at the beginning free heat must be removed, or its liberation must be arrested, or both. The first end we attain by favouring radiation; the second we attain by quinine, if at all. Thermometrical observations must be made at least twice daily, and these means used according to the severity of the case, remembering that *to allow a patient to continue in a high early temperature is often to consent to his death*. As regards the removal of free heat, I shall do no more than refer to the "cold water treatment," as in our Fever Hospital we have not yet been able fully to introduce it, and in private practice we are met by other difficulties. The free admission of cold air is one chief means, as I showed in a paper in the St. George's Hospital Reports for 1866. The patient must also be sponged frequently with tepid water; and, if I have my own way, I advise packing in a wet sheet and the use of cold douches to the head and shoulders. On the other hand, the patient must not be allowed to lie too lightly clad, but between the spongings diaphoresis must be encouraged by means medicinal and physical. If these measures do not reduce the temperature, quinine must be administered, in doses from 5 grains at the least, to 25 or 30 every morning

<sup>1</sup> The limits of this paper preclude my bringing detailed evidence in proof of these and other points.

in the apyretic stage; and it is important to remember that the mere abstraction of heat, though it prevents injury to the leucocytes, yet is not preventing its continued liberation with the corresponding waste and exhaustion. A combination of the cooling and quinine treatment therefore answers best in practice, and it is more reasonable in theory.

If the physician thinks the Carbonic symptoms predominate, his means must be changed or modified. Full spongings are now to be eschewed; stimulant douches to the head are alone to be used, and hot bottles are to be applied to the feet. If the Carbonic symptoms arise from failure of the heart, as in typhus, then full doses of alcoholic stimulants, with ammonia, digitalis, and mustard plasters to the left side, are to be ordered. The head and shoulders often need to be elevated, and a current of fresh air to be brought by fanning to the patient's face. Artificial respiration is rarely necessary or practicable, so far as my experience goes. If the Carbonic symptoms arise from blocked lungs, the alcoholic stimulants and digitalis must be given with very great caution, and the use of ammonia and fresh air in very considerable quantities is to be preferred. If the Uræmic symptoms be predominant, the cold douche to the head is again very valuable, and will often arrest delirium or dispel stupor. Flying blisters to the head have often also an effect. We shall, moreover, endeavour to promote secretion by salines and by diaphoresis. I have found small repeated doses of digitalis useful in this condition, together with the acetates or tartrates. I have also used dry cupping and fomentations to the loins with advantage. I think we may use diuretics, and digitalis in particular, in the hope of pumping the sluggish leucocytes through the renal capillaries. As to the fourth class, or Specific symptoms, such as the throat disorders of scarlatina, the ulcerations of the ileum in enteria, and so on, I shall say nothing, as these symptoms receive sufficient attention, and my paper has already outgrown its due limits. I venture to hope, however, that, if I have not proved, I have at any rate pointed out clearly that "fever" is a very complex disturbance, requiring many complex and corresponding changes in the patient's circumstance, and is not a simple and uniform process to be controlled with a nostrum.



## Reviews.

*Lehrbuch der functionellen Nervenkrankheiten, auf physiologischen Basis bearbeitet.* Von ALBERT EULENBURG, Privat-docent un-  
der Univers. Berlin, und Assistenzarzt der Med. Poliklinik,  
&c. Berlin, 1871: Hirschwald. London: Williams and  
Norgate. Price 8s.

DR. EULENBURG is one of the most distinguished of living German investigators, both of the physiology and the pathology of the nervous system; this must be allowed even by those who have not accepted implicitly the most prominent of the doctrines with which his name is associated—that of the four-fold Inhibitory nervous system. He has also done one service, for which he deserves special honour in this journal, in writing a very excellent and useful Monograph on Subcutaneous Injection of Remedies. His latest work, therefore, comes before us with great claims on our attention; and we may say, that to a large extent our expectations have been satisfied. We must also confess, that in particular departments Dr. Eulenburg has by no means come up to our ideal of what should have been done by a physician with the vast resources of the Berlin University Polyclinic at his command, and with his own wide physiological and pathological erudition to correct the tendency to speculative mistake. And we must notice, *in limine*, one defect which, if made by an author of less mark, would gravely prejudice us against his competence: we mean the brief, not to say hasty and superficial manner in which he deals with the subject of epilepsy and general convulsions, as compared with the large space which he devotes to the consideration of such relatively unimportant matters as many of the localised spasms and paralyses. And to end the more serious part of our fault-finding, there is one omission, or mistake, as we cannot but regard it, of a serious kind: we refer to the author's statement of the physiology of spasmodic asthma. To our astonishment, he adopts the theory that this affection depends chiefly upon spasm of the muscular coats of the bronchi—an opinion which has been revived and ably defended by Dr. Salter in this country, but which is opposed by such a weight of experimental and clinical evidence, collected more especially by Eulenburg's own countrymen, that it is probably

now held by very few advanced thinkers in medicine. The readers of this journal will recollect how emphatically this doctrine was repudiated by M. Sée, of Paris, in his paper (on *Belladonna in Asthma*) contributed to the *Practitioner* of July 1869. M. Sée there speaks of the bronchial-spasm theory as an entirely unfounded speculation.

We shall say no more, however, of the general defects of Dr. Eulenburg's book, for which, in truth, there are better excuses than authors can generally produce for the like defects. Its completion took place under great difficulties; the distinguished author, like so many of his ablest medical compatriots, having gone to follow the fortunes of the German army in France. His preface is dated from Orleans! a curious place for a German *savant* to find himself in.

The part of this work which will command most attention is the section devoted to lesions of sensation, the "anæsthesiæ" and "hyperthesiæ," as we somewhat regretfully observe that Dr. Eulenburg still calls them. In regard to the hyperæsthesiæ or painful affections, especially, the English reader will find most useful information: here the author's German instinct of compilation, while not excluding original thought on his own part, has enabled him to present us with a well-digested mass of facts which, to English readers especially, ought to prove most useful and acceptable. Since Romberg's great work on *Nervous Diseases*, which is now in many respects out of date, there has been no such luminous summing up of this most difficult and obscure subject; and it is an agreeable surprise to see how widely the author has searched for information, even though the carefulness of Germans in this respect is well known: in particular, he has studied recent English authorities with remarkable care. The reader who glances over the pages of this part of the book will have reason to guess that the writer of this review is by no means in accord with all the views advanced; but this does not prevent our according hearty approval to the general style in which the task is executed. The care with which Eulenburg weighs in the balance the various momenta, external and internal, which seem to have a place in the causation of the neuralgias, is deserving of all praise; and it is especially pleasing to see the determined manner in which he throws aside the quasi-metaphysical language with which writers on disorders of sensation have so frequently concealed their own poverty of thought and reflection.

When we turn to the therapeutic parts of the section on neuralgias, we find a great inequality of work, some subjects being excellently handled, others seriously neglected. For instance, the important topic of subcutaneous injections is one on which our author speaks with the condensed fullness of a master

thoroughly familiar with his subject; and the same may be said of his critical appreciation of electrical treatment, as might be expected from his long and careful study of physiological and medical electricity. On the other hand, he is strangely neglectful of a subject which to most English physicians who see much of neuralgia appears vital: we mean the question of general nutrition, and the use of food and food-like medicines, which seem so obviously indicated and so practically useful. It is to us quite amazing to find no single notice, either under the heading of ordinary Trigeminal Neuralgia, or under that of Migraine (which our author, upon what we think insufficient evidence, separates from the former), of the beneficial effects of cod-liver oil, and of a diet rich in fat. We care nothing here for the truth or falsehood of the theory which supposes fat to be a specific nourisher of nervous tissue: but we are confident that no physician who has ever given this kind of treatment a fair trial will deny that for a large number of cases it forms a most important and essential element of successful management.

Perhaps the topic of greatest interest to our readers would be the opinion which Eulenburg gives as to the value of electrical treatment, his experience of this being very large. As we fully expected, he strongly maintains the general superiority of the constant current to faradisation for the treatment of neuralgias; and we should suppose that his work will materially assist the present tendency to reject the latter form of electricity altogether in neuralgic affections. Of the constant current he speaks with cautious impartiality; and even, we think with deference, under-rates its merits. The following are his remarks in the section on Neuralgia in general. He says that as to intensity of current, duration, and number of sittings, &c., no absolute rules can be laid down, but that from five to ten or fifteen cells is about the range of quantity, and the applications should be daily. "The effect of the constant current as a *palliative* is often extraordinarily striking, and can only be surpassed by that of hypodermic morphia. Much more doubtful is its power to *cure*, as I, after a large number of trials, venture to assert, against the sanguine statements of delirious galvano-therapeutists. The most favourable cases for galvanic treatment are peripheral neuralgias from rheumatism or the slighter traumatic causes, as also those which depend on an idiopathic neuritis. Neuralgias which depend on pathological processes in the tissues surrounding the nerves, especially bone diseases, tumours, &c., can never, or only very rarely, be relieved by galvanic treatment alone. The largest number of 'cures' are really of cases that are not true neuralgia at all, but myalgias, arthralgias, &c., from rheumatic or traumatic causes. In cases, also, of centrally-produced neuralgia,

true *cure* by galvanism is doubtful, and at any rate rare; *palliation*, on the contrary, is equally striking and frequent." Eulenburg shows, however, that there are great differences in the success of galvanism according to the locality of the neuralgic affections. In trigeminal neuralgia, *not* complicated with stomach affections, he says: "Of the rapid, often almost magical effect of galvanisation during a fierce paroxysm, I have convinced myself and others. A radical cure, notwithstanding these remarkable but temporary effects, cannot be reckoned on save in the slighter (especially peripheral) neuralgias, without mechanical cause, and even here by no means certainly. From the treatment of the severe epileptiform kinds, and in general from the treatment of centric facial neuralgia, by galvanisation through the head, or to the sympathetic, I have at least so far observed no decisive results." We quote these words with respect, but venture, on the score of our own experience and that of more than one friend, to express our belief that they by no means do justice to the powers of the constant current. Not merely is every word that Eulenburg says about palliation true, but we believe that radical cure can be obtained in a considerable percentage, even of severe cases. We know of one instance where severe tic of twenty years' standing was cured at one *séance*; and though such instances as this will doubtless be very rare, it is by no means infrequent to see very bad cases cured permanently (so far as three, four, or five years' immunity can guarantee permanence) in from ten to thirty daily sittings. We confess, however, that the successes have been mainly obtained, within our own knowledge, by galvanisation *not* directed on the sympathetic.

As regards sciatica, Eulenburg speaks much more strongly. He says that the treatment of this disease affords almost the most precious result attained by galvano-therapy. "Many cases are cured in three to five sittings; others are more rebellious, and require a treatment of as many weeks, or even several months. Galvanic treatment only fails in rare cases, where we have to do with a sciatica produced by central mischief, or by some irremovable cause, like malignant tumour in the pelvis. I use the current, especially at first, alternately with hypodermic morphia, a combination which at all events saves most of the pain, and not a little favours the progress of recovery."

On the other hand, Eulenburg declares that in intercostal neuralgia he has seen no good effects from electric treatment of any kind. Of visceral neuralgias, we may mention Angina pectoris. Here Eulenburg has had encouraging results. He applied a strong current (30 cells,) with the positive pole on the sternum (broad conductor), and the negative on the seventh cervical vertebra, in one case, with the effect of lessening the number and

severity of the attacks. In three other cases he also obtained good results by the same method (reflex galvanization of the regulative heart centres). He does not appear as yet to have tried direct galvanisation of the sympathetic or the vagus in the neck.

The question, however, which most interested us as to galvanism in neuralgia, was its applicability to migraine (nervous sick-headache). Here Eulenburg's remarks are very interesting. He gives experimental evidence throwing much doubt on Remak's explanations of the action of sympathetic galvanisation; personally he prefers passing a weak current, carefully graduated, transversely between the two temples or the two mastoid processes, *without breaks*, and has obtained very good results in some cases, but cannot yet speak positively as to the chances of permanent cure.

One more topic, in connection with neuralgia, must be mentioned, namely, the hypodermic injection of caffeine, a proceeding which, as we can personally testify, is of considerable value. Eulenburg was one of the first authors to speak of this method, and we are disappointed to find scarcely any mention of it in the present volume. We nevertheless believe it to possess considerable value, and would recommend the extensive trial of it. Grain doses may be injected, in gastralgia more especially, with very good hopes of a favourable result.

We have glanced only briefly at a few of the topics in but one section of this important book, and already our available space is exhausted. We recommend every one who can read German to study it for themselves; for, although we disagree with a great many things which it contains, we may confidently say that it is superior to any English treatise on functional nervous disorders.

*Oxygen Gas as a Remedy in Disease. Prize essay of the Alumni Association of the College of Physicians and Surgeons, N.Y.* 1870. By ANDREW H. SMITH, M.D., &c., &c. New York: Appleton, 1870. Pamphlet.

It has long been a matter of considerable surprise to us that more serious attempts have not been made, by the physicians of our great London hospitals, to settle the vexed questions concerning the power of oxygen as a therapeutic agent. It is a subject on which we are at present entirely impartial, from want of personal experience; but we have a certain amount of confidence in our power as editorial *tasters*, so to speak, of scientific evidence on matters therapeutic, and we do not hesitate to say that the testimony already produced on this subject is such as to call loudly for authoritative confirmation, or authoritative refutation, as the case may turn out. No doubt a good deal of discredit has been thrown on the medical use of oxygen by the

unscientific (not to say unprofessional) manner in which its powers have been vaunted by more than one would-be Paracelsus of the present generation; but it certainly has not been more be-quacked than has medical electricity, and yet we find that respectable medical men are throwing over their prejudices against the latter agent, and acknowledging that they cannot do without it any longer. Now that oxygen can be obtained pure, in portable form, and with convenient apparatus for its use, it seems to us a crying reproach that our hospitals do not at once take up and try upon a large scale the question of its therapeutic powers.

The pamphlet which occasions the above remarks was, we confess, a good test of our own philosophic determination not to let ourselves be unfairly prejudiced, for the author has most unwisely printed a sentence, at the top of his first page, which must fearfully outrage the scientific palate. What were we to think of a man who commenced a discussion of the action of oxygen by quoting the text, "He breathed into his nostrils the breath of life," &c. ? Many people would, we fear, do what we felt inclined to do—throw the treatise aside at once. However, there is no occasion to visit Dr. Smith's crime so severely: on the contrary, he has made some interesting researches of his own, and has also summed up the results obtained by other observers with decent impartiality. In the absence of anything which could pretend to the character of a complete research on the subject it deals with, Dr. Smith's treatise will be found very useful as a small instalment of what we want.

Dr. Smith obtains oxygen from chlorate of potash, by simple heating in an apparatus which it is unnecessary to describe, as practitioners will certainly buy their oxygen ready made, unless they come to use it on a very large scale. As in the apparatus of Barth, the gas, being either in a bag or gasometer, is conveyed to the patient through a flexible tube terminating in a mouth-piece, which is either placed between the lips or at the orifice of one nostril. Dr. Smith objects to inhalers with valves, though, as we have shown in our criticism at another page (Department of Inventions), these objections not only can, but absolutely ought to be got over. The quantity of the gas given will vary from one to two gallons daily, which is sufficient in some chronic cases, to 80 or 100 gallons, which may be required in urgent dyspnoea. In chronic cases it should be given from a very small orifice, so that the inhalation of four or five gallons will occupy 15 to 30 minutes. Feeble patients should take it in the recumbent position. The inhalations should be repeated morning and evening, or less frequently, as the case may demand. Some very striking results have followed when the interval was as great as three days. On the other hand, when

respiration is much obstructed, it may be necessary to give the gas almost constantly, and but little diluted. Dr. Smith altogether rejects the plan of attempting to charge the air of a room with extra oxygen, as impracticable, if ventilation be properly maintained; and he also discredits Dr. Birch's theory that oxygen ought to be given while it is in a quasi-nascent condition, which he says is neither theoretically probable nor correspondent with observed facts.

In regard to physiological action, Dr. Smith's experiments bring out one or two curious facts. He shows, for example, that the remarkable *reddening of the tissues* of animals which die from confinement in oxygen gas, is no true effect of oxygen as such, but only of oxygen *plus* the impurities of an atmosphere which had been breathed for a long time. This was done by providing, within the bell-glass under which the animal was confined, some solution of caustic potash, which might absorb the carbonic acid; the death of the animals was evidently retarded, and the reddening of the tissues *was not produced*. Dr. Smith thinks the red colour is produced by retention of carbonic acid in the tissues. (Is it not more probable that it is due to carbonic *oxide*, formed within the jar under ordinary circumstances, but not formed when provision is made for absorbing superfluous carbonic acid?) Further experiments show that when really *complete* precautions are taken to charge the air of the chamber, animals exhibit no sign whatever of truly toxic effects, and that in particular the old theory of hyperoxygenation of the blood must be entirely incorrect. Dr. Smith does not, however, accept the theory of Regnault and Reiset, according to which the inhalation of pure oxygen makes no difference with respiration: clinical and experimental facts are, he says, in decided opposition to this idea. He simply believes that the inhalation of oxygen, in appropriate circumstances, allows of complete saturation of the blood to the *physiological* maximum—not beyond.

Another curious fact observed was, that the inhalation of a considerable quantity of oxygen, by a healthy person, is followed within a few moments by a temporary *decrease* of the carbonic acid exhaled; although the ultimate effect is a small *increase*, so small as to confirm the idea that the absorption of oxygen by the blood-corpuscle does not exceed physiological limits. Lastly, be it said, that Dr. Smith apparently makes out that not only uric acid (as asserted by Dr. Goolden, *Lancet*, March 10, 1866), but urea itself is diminished by the inhalation of oxygen; and also that a striking diminution in the urinary colouring matter takes place, without any diminution of the specific gravity of the fluid. These are very important state-

ments, that ought not to be left unconfirmed (or uncorrected), by physiologists, for a single month.

As regards the practical application of oxygen in disease, Dr. Smith's statements do not add much to, though they in general confirm the statements of the more sober among previous advocates of the remedy. Our readers will remember that Professor Mackey, of Birmingham, gave an account (*Practitioner*, May 1869) of a considerable number of cases of disease, including three of phthisis, in which undoubted benefit resulted from oxygen inhalations. From this and other highly respectable evidence (including his own) which is cited by Dr. Smith, we have come to the conclusion that there is very strong evidence as to the good effects of oxygen in (a) spasmodic affections of respiration, both "idiopathic" and symptomatic of cardiac disease; (b) in failure of nutrition, both of superficial parts and of the deeper organs, as in phthisis—the conditions of success in the latter case being, however, somewhat indeterminate.

It must at any rate be plain to any candid mind that oxygen is a real, though as yet not very well understood, therapeutic power. It is the bitterest sarcasm on our respectable and conventional system of therapeutics, that nothing like a *concerted* effort has yet been made, by competent and credible men in England, to settle what the true functions of so powerful a therapeutic weapon may be.

*Lectures on Aural Catarrh, or the commonest forms of Deafness, and their Cure.* By PETER ALLEN, M.D., Aural Surgeon to St. Mary's Hospital. London: Churchill, pp. 277.

WE have been much pleased with the perusal of Mr. Allen's practical little work. The subjects of which he treats embrace by far the largest proportion of ordinary cases of deafness, and his methods of treatment seem to be very sensible and judicious. The work contains full directions to enable the student to use all the instruments and methods of investigation in common use, as the speculum otoscope, Eustachian catheter, Politzer's mode of inflating the ear, with Mr. Allen's improved nasal pad, &c., and it furnishes an excellent account of the mode in which the physical exploration of the ears of a deaf person should be conducted; embracing such points as relative position, inclination, form, size, colour, curvature, lustre, degree of transparency, and texture of the membrana tympani. Mr. Allen speaks highly of the value of the Eustachian catheter, but he rightly remarks that the injection of medicated fluids into the tympanum by its means must only be adopted with the greatest precaution, since it must never be forgotten that these parts cannot be completely drained of the injected fluid unless there exists an aperture quite at the lower



margin of the membrana tympani, because the Eustachian tube does not make its exit from the floor of the tympanum, but nearly half way up.

Mr. Allen's division of aural catarrh is into—(1.) Simple aural catarrh, or catarrhal inflammation of the mucous membrane of the cavitas tympani, membrana tympani, Eustachian tube, and mastoid cells. This may be either acute or chronic. (2.) Purulent aural catarrh; or otitis; also acute and chronic. (3.) Otorrhœa, aural polypi, &c., or the results of purulent aural catarrh. The various stages of these affections are traced with a skilful hand, and excellent rules of treatment laid down. The only point where we have found reason to differ from Mr. Allen has been in his plan of rupturing the membrana tympani from within, by the Politzer method of inflation, in cases of purulent aural catarrh or otitis. We cannot but think such a plan, notwithstanding Mr. Allen's assurance that he has on several occasions practised it with success, to be fraught with danger, and should prefer external incision in cases where it was necessary to perforate the membrana tympani. Mr. Allen's work commends itself to the student by its small size and succinctness of description in treating of the details of this far too much neglected specialty, and we are sure those who purchase it will find many useful hints, and will not regret the money expended upon it.

## Clinic of the Month.

**Therapeutic Value of Iodine in the Treatment of Syphilitic Nervous Affections.**—In an interesting paper on this subject, Dr. Buzzard expresses his opinion that such affections are always either connected with its tertiary stage or are ascribable to hereditary taint; and when the patient's history is investigable, it is in the first of these cases more common to find that no secondary symptoms—such as skin eruptions, iritis, loss of hair, or sore throat—were observed, than that these have been well marked. In most cases Dr. Buzzard has found that mercury has been pushed to salivation. The nervous affections belonging to the tertiary stage which he enumerates, are affections of the coverings of the brain, with or without lesion of the cerebral substance, giving rise to epileptiform attacks, hemicrania, nausea, vertigo, or hemiplegia; optic neuritis, general paralysis and dementia, paralysis of one or more of the cranial or spinal nerves, progressive locomotor ataxy. It is not common to meet with well-marked tertiary symptoms affecting remote structures in cases of nervous affection due to syphilis. Occasionally, no doubt, patches of psoriasis may be observed, or serpiginous ulcers or cellular nodes present themselves, and aid the diagnosis. The general appearance of the patient also varies considerably from that of good health to a state of extreme cachectic debility, and it is in the latter class of cases that the iodine treatment is most efficacious. In all cases there is a great tendency to relapse. In all cases of nervous affection due to syphilis, Dr. Buzzard is in the habit of commencing the treatment with iodide of potassium in preference to the salt of any other base. Its effects, however, are subject to remarkable varieties, sometimes acting like a charm, at others failing; the differences being probably due to the duration of the symptoms before specific treatment is commenced. When the patient is seen early, and the diagnosis of syphilis rapidly acted upon, it would seem that the neoplasm is removed from the connective tissue in which it is deposited before there has been time for the nerve-structure proper to have become seriously damaged. However severe may be the symptoms—complete paralysis of one or more cranial nerves, the occurrence of violent epileptiform convulsions or more or less complete paraplegia—if these depend, as they frequently do in the earliest period, upon simple pressure exerted by the effused

gummatous products, the absorption of these, under the influence of iodide of potassium, sweeps away the grave symptoms with remarkable celerity. But when, owing very often to want of recognition of the cause, valuable time has been lost, softening of nerve-structure has taken place from the pressure of gummata, or sometimes from inflammation, and consequent obliteration of arteries,—under such circumstances but trifling improvement can be expected from the use of the iodide. Various as are the lesions of the nervous system resulting from syphilis—pain, convulsions, paralysis, muscular atrophy—there is not, Dr. Buzzard thinks, sufficient evidence as yet to show that one of these symptoms is *primæ facie* more likely to be beneficially influenced by the iodide than another; but early diagnosis of this nature is of the greatest importance. A patient may present himself suffering from very slight seizures, which he calls “faints.” These are often of syphilitic origin, and if their cause is mistaken, and a routine treatment (of bromide of potassium for example) be adopted, they will rapidly increase in severity, till violent epileptiform seizures take place, and possibly a hemiplegic condition supervenes. But a few grains of iodide of potassium administered daily will clear these faints away as by a charm, and, judiciously continued, will obviate the tendency to further mischief. As regards the mode of administration, Dr. Buzzard ordinarily commences with a dose of 10 grains of the iodide in water between meals, increased if necessary at intervals of a few days to 15, 20, up to 60 grains. The drug should be continued for some time after the symptoms disappear, its administration being alternated, if the patient be anæmic, with mineral acids and iron. He does not think the addition of mercury is of service in tertiary syphilis affecting the nervous system, excepting in the case of children suffering from hereditary taint. His experience does not show that any advantage is gained from the addition of ammonia or bitter tinctures to the iodide. But in certain cases of continued epileptiform seizures having a syphilitic origin, he finds that the combination of the bromide of potassium, in 20 or 30 grain doses, with 5 grains of iodide, two or three times a day, is attended with advantage. (*Lancet*, March 11, 1871.)

**The Treatment of Hæmoptysis.**—Dr. Waters records a series of cases illustrating various forms and modes of treatment of hæmoptysis. He remarks that, considering the frequency of this symptom, it is only in a small proportion of cases that it proves fatal—the patient dying suddenly from the profusions of the hæmorrhage and consequent suffocation, or sinking more or less rapidly from exhaustion. Whenever it is only slight during the progress of a case of phthisis, he is of opinion that no

special treatment need be directed to it; should it be, however, at all severe, rest should be enjoined, and no risk run by which an inflammatory attack might be brought on. In regard to the various measures that are usually resorted to, he considers the best remedy to be used is gallic acid, as being the safest, the most rapid, and the most effectual. It should be given in full doses of not less than 10 grains every hour, or every two, three, or four hours, according to the severity of the case. It is readily taken by patients, it rarely disagrees with the stomach, and is well borne by delicate persons. It rapidly finds its way into the urine and is excreted. Acetate of lead, especially when combined with opium, is often of great service. He usually gives it in the form of pill, in two or three grain doses, every two, three, or four hours, but it should not be too long continued on account of its constipating effects. Sulphuric acid is a good remedy in slight cases of hæmoptysis, and it may be combined with other substances, as quinine and iron, which are given for the general treatment of the disease. It should be given in doses of from 10 to 30 minims. Dr. Waters' experience of the use of ergot of rye in pulmonary hæmorrhage is not very favourable. In severe cases of hæmoptysis he always applies ice to the chest: it should be included in a bag, and not allowed to remain so long as to produce a chill. In regard to digitalis, as far as his experience goes, he is unable to recommend it as a trustworthy remedy in hæmoptysis. He occasionally prescribes dry cupping, but never fails to give styptics internally at the same time. He gives a caution against the indiscriminate administration of purgatives. Turpentine he considers to be less valuable in hæmorrhage from the lungs than in hæmorrhage from the bowels. The room should be kept cool and well ventilated; the food should consist of iced beef-tea and milk, and small pieces of ice given to the patient to suck. (*British Medical Journal*, March 11, 1871.)

In a note upon the above lecture in the following number of the same journal, Dr. Goddard Rogers, whilst agreeing for the most part in the estimate of the relative value of the various remedies therein mentioned by Dr. Waters for the treatment of hæmoptysis, remarks that *alumen exsiccatum* and diluted acetic acid are worthy of mention, and that as long ago as 1858 he himself called attention to the very marked efficacy of the so-called tannate of alumina in spitting of blood. Iron-alum, a sulphate of peroxide of iron, and a sulphate of alumina or potash, is perhaps a still more powerful astringent. The dose should not exceed three grains to begin with. Ruspini's styptic also deserves a passing notice.

**Intestinal Obstruction Removed by Gastrotoomy.**—Mr. Annandale reports a case in which a labourer, previously in

good health, was suddenly seized with severe pain in the belly, for which an enema was administered, and on the following morning a seidlitz powder, which produced no effect. Fæcal vomiting soon set in and continued. Croton oil was given without any purgation following. On the fourth day the belly was very slightly swollen, not tender, and no tumour could be felt; the hernial regions were free; the canal of the rectum was unobstructed; the pulse was feeble; the expression anxious. Two injections were administered, but only small scybalous masses came away, and the operation was suggested, and the consent of the patient obtained. Chloroform was administered, and an incision made from one inch below the umbilicus to about two inches above the pubes down to the peritoneum, which was then divided to about two-thirds of the extent of the external wound. A large mass of the small intestine at once protruded, and it was then noticed that, whilst one portion was much dilated, another portion was not only contracted but congested in appearance. On tracing the junction of these two portions, the obstruction, which was complete, was readily discerned, and proved to be a fine band of lymph attached to the mesentery and passing entirely round the gut, tightly compressing its whole circumference. The band was soft and was easily torn from its attachment, when the obstructed gut was at once relieved. There was no trace of any peritonitis. The edges of the incision were carefully brought together by thread sutures, which included the peritoneum. A few superficial stitches were introduced between the deeper ones, and antiseptic dressing with a pad of oakum applied over the wound, and secured by a few turns of a broad bandage. As soon as the patient recovered from the chloroform, two grains of solid opium were given in the form of pills. Six or seven hours after the operation he became restless and complained of pain, and another grain of opium was given, which appeared to relieve the pain, and some sherry and lemonade were taken without vomiting. In the forenoon of the following day, however, the patient became worse, and died somewhat suddenly from exhaustion. Post-mortem examination failed to show any peritonitis or any other obstruction of the bowels. From the results of this case, and a review of the opinions held by other surgeons, whom he quotes, Mr. Annandale draws the following conclusions:—1. That when the symptoms of sudden and complete intestinal obstruction are present, and the ordinary means of treatment have failed to give relief, the operation of gastro-tomy is justifiable and advisable. 2. That the operation should not, if possible, be delayed beyond forty-eight or thirty-six hours after the appearance of the first symptoms. 3. That the abdomen should be opened in the middle line, and every precau-

tion taken to avoid peritonitis. 4. That when the abdominal cavity is opened, the best guide to the seat of obstruction is the contracted or dilated condition of a portion of the intestine. 5. That if the intestine be gangrenous, or the obstruction not removable, its canal should be opened as near the obstruction as possible, and an artificial anus established. (*Edinburgh Medical Journal*, No. 8, vol. xvi. 1871.)

**Pathology of the Prostate Gland.**—Dr. Kraus states it may now be laid down as a rule, admitting of but few exceptions, that all diseases of the prostate take their origin in catarrh of the urethra or bladder. In consequence of the entrance of large quantities of the catarrhal secretion the gland becomes greatly swollen and enlarged, and the entrance of the secretion he attributes to the loss of tone in the bladder, by which the secretion is arrested in the prostatic portion of the urethra, and, subjected to pressure, thus is forced into its ducts. The cavity of the caput gallinaginis also becomes filled with the secretion, and from thence the catarrhal inflammation spreads along the ejaculatory ducts to the vesiculæ and epididymis. In some cases copulative power becomes lost by the agglutination or entire adhesion of the ejaculatory ducts. Bloody semen occurs when in hemorrhagia or vesical catarrh the semen is forcibly expelled through the adherent ducts. Muscular tissue is so prevalent in its texture that the formation of abscess in its substance is a very rare occurrence. Strictures of the urethra from enlargement of the prostate are also of extreme rarity, as the urethra has a large play between the corpora cavernosa, and can exert much locomotion before being interfered with by an enlargement of the prostate. (*Med. Times and Gazette*, March 11, 1871.)

**Nitrate of Silver in the painful Articular Swellings of Rheumatic Gout.**—Dr. Walter Fergus, of Marlborough, records the case of a moderately robust male patient, 26 years of age, who was suffering intense agony from rheumatic gout affecting chiefly the knees and ankles; the right ankle especially being swollen and glistening. He could not bear the least touch, and had been unable to rest in any position. The necessity for relief seemed to be so urgent, that in the hope of attaining this end, Dr. Fergus applied nitrate of silver freely over the whole of the inflamed surfaces until every portion was well covered with it. In less than two hours the pain was sensibly lessened, and the improvement continued, till at the end of twelve hours the pain had so far subsided as to allow the free handling of the joints, and he could bear to have his limbs moved. The pain never reappeared where the nitrate had taken full effect. In a few places where pain lingered a fresh application was made. There was a partial blistering of the surface, but as the blackened

cuticle separated the skin appeared natural and healthy underneath. (*Lancet*, March 25, 1871.)

**Food Solvents.**—Dr. Archer Farr remarks that whilst pepsine and pancreatine are so much vaunted as agents concerned in the process of digestion, he desires to point out that there are certain food solvents having an equal claim upon the attention of the physician, and to which he thinks too slight importance has hitherto attached. He refers to the fact that the gastric juice has been shown to be composed of pepsine and an acid constituent, which last may vary in its nature, but upon the proportion present of which the antiseptic properties of the juice appear to depend. To the acid he considers a certain portion of the digestive power of the gastric juice is attributable, and he observes that the various acids that have been found in the gastric juice are all antiscorbutic. Hence he considers such acids deserve to be classed among the most valuable therapeutic agents at the command of the physician, and is of opinion that indigestion may arise almost or quite as frequently from a want of acid as from a deficiency of pepsine in the gastric juice; hence it often occurs that when pepsine alone has failed to relieve dyspepsia, the desired result has attended the exhibition of one of the non-astringent acids. Some years ago Dr. Farr promulgated the view that the prophylactic virtue of lime-juice and other acids depend upon their direct action as food solvents, and since that time it has occurred to him that an excellent artificial gastric juice might be made by allowing the lime-juice to represent the acid portion. Accordingly he had prepared for him a mixture of lime-juice and pepsine, which he with others has used with the best results in cases of dyspepsia. Lime-juice, with either pepsine or pancreatine, forms a very elegant preparation, is most convenient for prescribing, and may be made to keep almost any length of time without deteriorating. (*Med. Times and Gazette*, March 18, 1871.)

## Extracts from British and Foreign Journals.

**On the Use of Morphia in the Treatment of Cutaneous Diseases.**—Dr. H. S. Purdon, of Belfast, observes that many forms of skin diseases are benefited and various distressing symptoms relieved by the use of morphia. Its advantage over opium is considered to be due to its occasioning a less degree of vascular or arterial excitement, seldom causing any headache, vertigo, or constipation. If morphia be taken in an overdose, itching and tingling of the whole cutaneous surface is often experienced, accompanied by more or less cerebral excitement. The preparations in common use are the hydrochlorate, bimeconate, and acetate. The last he considers to be best suited for hypodermic injection. None of them are safe for young children, for the treatment of whom it is better to substitute the bromide of potassium. The first disease in which morphia is particularly useful is *prurigo*, in which it allays the distressing irritation and itching, and also occasions more or less moisture and exhalation from the skin. It is contra-indicated when the urine is scanty and high coloured—a condition of things that is often present in this disease, and should first demand attention in the treatment. The neurotic element present in pruritus may in most instances be combated by a full dose of quinine (10 grains) daily. It acts best in females, and the hypodermic method of administration answers well, as by this means we do not interfere with the treatment by food and cod-liver oil through the stomach. In dermatalgia or that neuralgic condition of the skin often hysterical, as well as in the neuralgia of herpes, the hypodermic injection of morphia is of great benefit, as it does not tend to increase the existing congestion of the vessels in *herpes*. For the same reason it may be used to procure sleep in *urticaria*, but given internally, as the hypodermic method has been known to be followed by the eruption of wheals, either from the action of the drug or the irritation of the wound in a hyperæsthetic skin. Morphia proves very serviceable in certain cases of *eczema*. It is constantly employed in cases of *cancer*. In *lupus*, after cauterizing the tubercles with a pointed stick of nitrate of silver pushed freely into them, a dose of morphia gives the patient a good night's rest. In *gutta rosacea*, a disease that is frequently associated with derangement of the stomach, the patient



being often a confirmed dyspeptic, morphia is of much service, and, by allaying gastric irritability, allows us to prescribe suitable remedies. A morphia suppository is one of the best palliative remedies for that painful affection *pruritus ani*, whilst it is cleaner and more easily applied than either lotions or ointments. In *small-pox*, when accompanied by much irritability, inveterate itching of the skin, loss of sleep, and tendency to convulsions, morphia—either acetate, hydrochlorate, or bimeconate—may be prescribed in full dose. Lastly, the pain of a *blister*, especially if large, and to be applied to a nervous person, may be prevented by the hypodermic injection of morphia. (*Journal of Cutaneous Medicine*, March 1871.)

**Use of Tar for Pruritus Vulvæ.**—Dr. Weston recommends the application of tar with alcohol in cases of this disease, in the following proportions:  $\mathcal{R}$  Picis liquidæ (Norway tar), one drachm; alcohol, one ounce. Dr. Martin has obtained an equally good result from a similar application, and has also found it useful for the relief of the itching of hæmorrhoids which is sometimes so intolerable. The formula he employed was— $\mathcal{R}$  Picis liquid. purificatæ (Norway tar), four drachms; plasmatis glycerinæ, two ounces. To this, in old and severe cases with ridges of fibrinous deposit, two drachms of unguent hyd. nitratis fort. may be added with the aid of heat. Dr. Martin has also found tar, mixed with soap and water, useful as a vaginal injection for the itching sometimes accompanying cancerous affections of the womb. (*Journal of the Gynæcological Society*, No. 2, 1871.)

**Action of Hyoscyamine and Daturine.**—MM. Oulmont and Laurent having made a number of experiments on the action of hyoscyamine and daturine, sum up the results at which they have arrived as follows:—1. Hyoscyamine and daturine act specially on the great sympathetic nervous system. 2. In small doses they reduce the capillary circulation; in large doses they produce paralysis of the vessels. 3. The arterial tension is increased by the administration of weak and is diminished by poisonous doses. These effects are not modified by section of the vagi. 4. The frequency of the pulse is increased and its fulness diminished. 5. Hyoscyamine renders the movements of the heart regular; daturine often produces intermittence and arrest of action. When applied directly both alkaloids slow and ultimately arrest the beats. 6. Both always accelerate the respiration. 7. Neither have any direct action on the nervous system of animal life. Sensation and motor power are not modified by them. In toxic doses they blunt cutaneous sensibility. 8. These alkaloids have no action on the excitability of the striated muscles; they do not modify their structure. 9. In small doses they accelerate the movements of the intestines; in large doses

they paralyse them. 10. The general phenomena observed when these alkaloids are given are due to modification of the circulation, and disappear rapidly. The alkaloids are soon eliminated, especially by the urine, in which they may be found. 11. The dilatation of the pupil which is produced is due to stimulation of the sympathetic; the third pair of nerves is not concerned in its production. 12. Small doses generally give rise to slight increase of temperature; large doses diminish the central temperature. (*Medical and Surgical Reporter*, No. 726, 1871.)

**Carcinomatous Ulcer of the Rectum cured by Injections of Gastric Juice.**—Dr. V. d'Arpem, of the Island of Elba, records an interesting case of a woman, aged 38, married, but who had always suffered severe pain after connection, and from irregular and painful menstruation, to whom he was called for a profuse hæmorrhage from the uterus, which he at once arrested by the introduction of wool soaked in perchloride of iron. He at first thought it was only a case of menorrhagia, but the history the patient gave of pain in the rectum, greatly augmented by the passage of the fæces, led him to make a more minute examination, and he discovered on the anterior wall of the rectum a fungous ulcer, which the patient's aspect as well as the details of the history satisfied him was of a carcinomatous type. To relieve the symptoms, he injected a weak solution of permanganate of potash (13 parts of the salt to 1,000 of water) into the rectum, and prescribed decoction of cinchona in the morning and a chalybeate at midday, relieving the constipation which existed at the same time by mingling the latter with the citrate of magnesia. This treatment, with occasional doses of morphia and opium when the pain was severe, was continued for seven months. The patient was now attacked with a tertian ague, from which, however, she recovered quickly. M. d'Arpem then bethought him of trying the plan that had been suggested by Schiff, at the International Congress held at Florence, of the application of gastric juice to the ulcer, and, at the recommendation of that Professor, who, however, had little hope of its success, he injected 8 grammes of gastric juice three times every day, dissolved in water and glycerine. The first injection caused such intense pain that the patient fainted, spasm of the bladder succeeded, and after some time some grumous fluid, stinking horribly, escaped from the rectum. On the following day a little almond emulsion was injected before each injection of the gastric juice, with advantage. This plan was continued for 20 days, the patient undergoing steady and manifest improvement. An examination showed the surface of the ulcer not quite healed, but of a healthy colour, and the amount of the gastric juice in each

clyster was reduced to six grammes, and only one was given per diem, and from this time she gradually and completely recovered. (*L'Imparziale*, March 1, 1871.)

**Camphor in Hospital Gangrene.**—M. Netter forwarded a communication to the *séance* of the Paris Academy of Sciences, of the 13th March, reporting three fresh cases of success by means of treatment with large doses of camphor. These cases, with others previously reported, make up a total of fifteen in which, though of exceptional severity, perfect recovery followed the use of this drug. He therefore recommends that no other remedy should be employed, but that this should be administered in large doses. (*Gazette Médicale de Paris*, No. 12, 1871.)

**Local Applications in Variola.**—At the last meeting of the Société de Thérapeutique, M. Deliou stated that the plan which he had found to succeed best was the application of a mixture of collodion and castor-oil with the addition of 1-100th of bichloride of mercury. M. Féreol stated he was of opinion that this application was useful in confluent varioloid, but that it was of no value in true variola when confluent. M. Deliou, however, held in reply that it had proved equally satisfactory in both forms. (*Ibid.*)

**Therapeutic Uses of Glycerine.**—The unirritating, soothing, and protective properties of glycerine, as obtained in an absolutely anhydrous state from Sarg's establishment, as well as its beneficial action on inflammation of the conjunctiva and external auditory muscles, on burns, mechanical lesions, &c., are, M. Eberhard observes, sufficiently well known and constantly brought into requisition. Its power, however, he thinks, is less known of withdrawing water by an exosmotic process from the tissues to which it has been applied. Marion Sims some time ago demonstrated that a ball of lint dipped in glycerine and applied to a freely suppurating surface arrests the secretion. Fürst has also applied the glycerine plug in a large number of cases of fluor albus, and M. Eberhard states he has been very successful in employing the same means in similar cases. He gives the following case:—A woman, aged 30, who had had several children, suffered for two years from white discharge following a natural labour which had occurred two years previously, and which was particularly severe at the catamenial periods. She lost flesh, and presented well-marked symptoms of hysteria. The stomach was distended, the digestion much disturbed, and other in such case usual symptoms were present. Various remedies had been unsuccessfully employed. On examination with the speculum, Eberhard satisfied himself that the patient was suffering from chronic endometritis catarrhalis, to

which condition he attributed the other symptoms, and he determined to try the effect of glycerine. To this end he introduced a plug of cotton-wool saturated with anhydrous glycerine into the vagina by the sheath speculum, and allowed it to remain through the night. The patient learnt to perform the operation herself, and a cure was rapidly effected, not only in the white discharge, but in the general symptoms of the patient. (*Allgemeine Wiener Med. Zeitung*, No. 13, 1871.)

**Treatment of Old Ulcers.**—The following is a portion of a lecture delivered by Dr. Lewis A. Sayre, of the Charity Hospital, New York, reported by Dr. Townsend. Dr. Sayre exhibited to his class an old ulcer of eight years' duration, and stated that four weeks previously he had an ulcer extending from the lower third of the tibia to the ankle-joint, and almost encircling the leg, leaving but a strip of integument one-and-a-quarter inch wide posteriorly. The ulcer was surrounded with a thick, hard, gristly, and almost fibro-cartilaginous border, and covered with granulations utterly insensible to mechanical irritation. When the patient was exhibited the ulcer was found to be reduced in size one-half, and covered with fine florid granulations. This change was effected by the adoption of the following means. In the first place the hard border and the face of the ulcer itself were freely incised, with incisions running parallel with the leg; bleeding was promoted by sponging the parts with warm water; the leg was then elevated, the remaining blood pressed thoroughly out, and strapping and a bandage carefully applied. The man was not put to bed, but made to work out of doors, to render the circulation of the blood more active. The dressing in such cases should be repeated as soon as the bandage becomes soiled by the passage through of the secretions, and no sooner; but having been once applied, the artificial support should be continued throughout life. (*Medical and Surgical Reporter*, No. 724, 1871.)

**Treatment of Cerebral Hæmorrhage.**—Dr. J. K. Bauduy, of St. Louis, observes, in a lecture devoted to this subject, that in the vast majority of cases he does not bleed, but divides his patients into two classes, requiring totally different modes of treatment. In those who are affected with complete hemiplegia suddenly, without loss of consciousness, and in whom therefore we have no difficulty in differentiating white softening from sanguineous extravasation, there is little to do beyond placing the patient in a horizontal position, avoiding all sources of excitement, giving him the benefit of the best hygienic measures, and perhaps a brisk purge. In the second class of cases—those suddenly rendered completely hemiplegic with loss of consciousness, provided the pulse is strong, pale, firm, and slow, the heart

healthy, and there are evidences of great congestion, as evinced by flushed face and tinged skin, injected conjunctivæ—we may undoubtedly take a moderate quantity of blood by cups applied to the occiput, and in some instances, should the symptoms of irritation become very threatening, resort to a moderate venesection. In case the patient has been seized with a fit during a long and luxurious meal, knowing how a disturbed stomach may mechanically provoke excessive cerebral hyperæmia, we should be justified in administering a stimulant emetic, in the selection of which remedy we must aim at combining rapidity of effect with the avoidance of prostration. In cases in which a medium course is to be pursued, the head may be shaved, cold cautiously applied, and the bowels freely moved, avoiding of course excessive purgation. In cases in which the patient is rapidly sinking, death by syncope impending, sinapisms, stimulants, and restoratives are to be energetically used. Such cases, it is needless to add, may be recognised by the rapid, feeble, irregular and intermittent pulse, pallor of the countenance, and coldness of the skin. During the stage of so-called reaction, when the dangers of encephalitis are to be apprehended from the presence of the clot, we must energetically essay the effects of cold to the head, warmth to the lower extremities, and perhaps the internal administration of salines and of the iodine and bromide of potassium. Having no confidence in the beneficial influence of mercurials to produce the absorption of the clots, and believing that they would only be potent to produce a cachexia, which would thwart the *vis medicatrix nature*, upon whose kind endeavours we must hopefully trust for the absorption, disintegration, and encysting of the clot, Dr. Bauduy entirely avoids them in his practice. As the violence of this stage subsides, blisters, pustulation, or other counter-irritants might, by their reflex influence, be of importance. In the treatment of hemiplegia he strictly avoids the administration of strychnia, accepting the opinion of Dr. Todd, that a sort of elective affinity for the strychnia is exercised by the portions of the nervous substance affected, and that the most baneful consequences may result, without any compensating advantages. The benefits of faradisation, properly employed, cannot be questioned, and it forms one of the resources upon which the most reliance can be placed for treatment of the hemiplegic symptoms. Country air, mild diet, and the strict observance of hygienic laws, are of essential importance. (*St. Louis Medical and Surgical Journal*, March 10, 1871.)

**Cold Affusion as a Therapeutic Agent.**—Dr. Lambert, in the *Journal de Médecine de Bruxelles*, thus summarizes the indications:—1. That it is especially useful in typhoid fever and the

exanthemata. 2. It acts upon the principal and most constant symptoms of the diseases, as the elevation of the temperature, which it reduces several degrees, being especially apyretic. 3. It favours the re-establishment of a full and regular respiration. 4. It increases by reflex action the peripheral circulation by the rhythmical and vigorous contraction of the capillary vessels. 5. It increases all the physiological secretions, and renders the skin moist, soft, and cool. 6. It generally favours the appearance of the rash, and re-establishes it if it has disappeared. 7. It quiets cerebral excitement by stimulating the circulation of the brain, and by this diminishes delirium, coma, and the prostration. 8. It produces a tranquillity which allows the patient to sleep well. 9. It diminishes the frequency of the pulse in from 8 to 30 pulsations. 10. It cures the headache. 11. The apyretic action lasts from two to eight hours. 12. The affusions should, upon the average, be repeated from two to four times a day. 13. It is especially indicated in severe typhoid or the malignant form of eruptive fevers. 14. It does not shorten the duration of the diseases, but it diminishes their gravity, and renders them milder. 15. It is not indicated in every case of typhoid fever, or of the eruptive fevers, so that it must not be regarded as an exclusive method without concomitant treatment. 16. It is advantageously employed either by cold envelopment of the trunk, or by cold affusion practised simultaneously. 17. It is easy of application, and not disagreeable to patients. 18. Its employment is rational, and based upon the teachings of clinical physiology.

The same author then gives the indications and contra-indications to this mode of treatment in typhoid fever:—

1. When the temperature exceeds and remains above 39.5° Cent. (103° F.), rather than in the usual grave type.
2. When there are grave nervous phenomena, such as furious delirium, subsultus tendinum, violent agitation, coma, insensibility, or stupor.
3. When the respiration is irregular or insufficient.
4. When there are from 130 to 140 pulsations per minute, and when they are feeble and regular.
5. *When the skin is dry and parched.*

The following are the contra-indications:—1. Intestinal hæmorrhage; since all authors, with the exception of Brand, have observed an augmentation or a more frequent repetition of this grave accident. 2. Intestinal perforations, as in these cases the least movement is painful to the patients.

The valuable observations of Prof. Béhier warrant the employment, in these cases, of a continuous application upon the abdomen of bladders of ice.

The following conditions do not contra-indicate:—1. The existence of a bronchitis of greater or less extent and intensity,

even of the capillary variety, is not a contra-indication; and upon this all authors are in accord. 2. The existence of a pneumonia, either catarrhal or hypostatic, or of pulmonary collapse, or of hæmorrhagic infarction, (Frölich, Jürgensen), is not a contra-indication, but in these conditions it is specially indicated. 3. The existence of more or less profuse diarrhœa. Jürgensen has noticed its diminution under this treatment. 4. The appearance of the menses does not in any manner contra-indicate its employment. Currie, Brand, and all modern authors have never observed an untoward symptom under these circumstances. However, it is rare that the courses come on in typhoid fever. 5. Epistaxis does not contra-indicate.

Finally, Lambert alludes to the aversion which some patients evince to the cold affusions. This is generally noticed in the first applications, particularly in regular practice. He recommends that the physician should firmly persist, not only because he is convinced of the necessity and urgency of the treatment, but also because all the patients, without exception, become readily accustomed to it, and are even impatient for the affusions. (*American Medical Gazette*, February 18, 1871.)

## Notes and Queries.

### DEPARTMENT OF ANALYSIS AND INVENTIONS.

**BARTH'S PORTABLE APPARATUS FOR ADMINISTERING OXYGEN.**  
—We have lately been inspecting the portable apparatus for administering oxygen gas which Mr. Barth has invented. It does not appear that the profession at large has so far given a fair trial to a remedial agent the value of which can only be settled by very extensive experience, but concerning which there is a good deal of favourable evidence from respectable sources, as will be gathered from our review of Dr. Smith's pamphlet at another page of our present number. The greatest obstacle to the general use of oxygen in private practice, viz., the difficulty of obtaining the pure gas in sufficient quantities, has now for some time been obviated by the practice of compressing the gas into strong metal store-bottles. The other desideratum was to make store-bottle and apparatus for administration easily portable, and this could hardly be said to be accomplished even by the neat and handy gasometer apparatus of Mr. Barth. The newer instrument, however, is light enough to be carried in one hand with the greatest ease. It consists of a polished mahogany box, which is divided into two compartments, one containing the store-bottle of compressed gas, the other fitted with a dilatable india-rubber bag, into which the gas passes by a tube on opening a stopcock. Another tube which opens into the bag is destined for the admission of common air to dilute the gas; the air is propelled into the bag by squeezing a hand-ball. A third tube leading from the bag delivers the gas to the patient: in the instrument we saw the tube was somewhat small, and terminated in an ivory mouthpiece to be placed between the lips or held to the orifice of one nostril; but we understand that the apparatus is also made with a wider delivery-tube terminating in a regular face-piece to cover mouth and nostrils completely, as in a Snow's or Clover's chloroform-inhaler. We certainly think that such a wide tube and face-piece (fitted with Clover's hair-spring valves) should always be employed. In any case of the administration of a gas it is best to do the dilution with atmospheric air for ourselves, and then to compel the patient to breathe only the known mixture of gas and air.



It would be desirable, however, to send with each apparatus full information (a) as to the cubic contents of the bag, and (b) as to the amount of atmospheric air, in cubic inches, which can be delivered into it by so many squeezes of the hand-ball. We should then make our intended mixture by first forcing a definite proportion of air into the bag, and then filling it completely up by opening the stopcock and letting the oxygen rush in.

## CORRESPONDENCE.

THE THEORY OF GOUT.—Dr. Hood has sent us the following reclamation, in reference to some remarks in our review of his work on gout:—

"I shall be much obliged if you will permit me to correct a misconception into which you have fallen, with reference to one of the doctrines put forward in my recent book on gout.

"So far from having written that gout is to be referred entirely to the liver, I have expressly differed from Mr. Anthony White's opinion to that effect: and have only said that I believe the liver to be nearly always implicated in the disorder, and to furnish sometimes the 'first link in the chain of morbid action.'"

ON THE TREATMENT OF CERTAIN DISEASES BY A CARBOLIZED ATMOSPHERE.—Dr. L. H. J. Hayne, of Woolwich, sends us this note:—

"I was glad to see a paper in the January number of the *Practitioner*, upon 'The treatment of blood-poisoning by a carbolized atmosphere acting through the skin and lungs. By Professor Wood.'

"This paper agrees with my experience of this remedy, used in a similar manner, during the last three years in India and Egypt, in such serious diseases as purulent ophthalmia, and variola.

"I take one or two extracts from my rough notes, showing the benefit to be derived from this treatment.

"CASE 1.—Suez, August 3rd, 1868. M——, aged 23, presented himself with well-marked variola; the pustules had the appearance of those of the eighth or ninth day, and were not confluent. This man was placed in the starboard wash-house on the deck by himself; cloths steeped in strong solution of carbolic acid were hung up in the place, and were kept constantly saturated with the solution; carbolic acid crystals were also mixed with moistened sand, and put into saucers in the wash-house. By this means a very strong odour of the acid permeated the air of this temporary hospital. This patient was

ordered saline mixture, beef-tea, and wine. It was naturally expected that, as there were several hundred people on board at the time, the disease would spread throughout the ship, but there occurred only five cases in all: these were all placed in the temporary hospital until they were removed to the shore. The first case was treated on board, and recovered, carbolic acid baths being employed during convalescence.

"CASE 2.—Suez, December 6th, 1868. Mr. B——, aged 23, was attacked with what seemed at first to be catarrhal ophthalmia of the left eye. An aperient was ordered, and fomentations to the eye. The next morning he said he had been awake in the night with violent pain in the eye. There was now considerable chemosis, and purulent discharge from the eye, the whole conjunctiva being much injected; the right eye also was now somewhat inflamed. Five leeches were applied to the left temple, and fomentations of carbolic acid (3j ad 3x) ordered to be frequently applied to the left eye; he also took tinct. opu. xv. sod. carb. 3j. ter die.

"On the 8th December the left eye was somewhat better, but the right had become worse, discharging pus freely, but the pain and chemosis were not so great in this eye as they had been in the one first attacked.

"December 9th.—Both eyes improved, and the intolerance of light is not so great.

"December 23rd.—The treatment was continued, with the addition of applying to the eyelids the ung. hydrarg. nit. mit., till this date, when he was discharged to duty with nothing remaining but slight injection of the conjunctivæ.

"This officer was confined to his cabin during the treatment, and carbolic acid was vaporized therein constantly; cloths steeped in the acid solution were also suspended outside the door of the cabin to prevent infection, as the ship's company were berthed close by. No other case occurred on board at this time

"In rubecula and several other contagious diseases, I have been in the habit of using the carbolized atmosphere with the best results, during the last three years."

MR. FURNEAUX JORDAN'S METHOD OF TREATING SURGICAL INFLAMMATION.—Dr. R. Beale, of Congleton, writes as follows:—"The writer of the review of Mr. Jordan's book which appeared in the *Practitioner* for April, although incredulous of the support which a majority of the recorded cases give to his conclusions, credits him with having written 'an original and remarkable work.' Assuming the reviewer to be ignorant of an 'Essay on the Use of the Nitrate of Silver,' written more than forty years ago, by Mr. Higginbottom, F.R.S., of Nottingham, I am not surprised at his using these epithets. But the originality of

Mr. Jordan's views would not be admitted by any one acquainted with Mr. Higginbottom's monograph, or who has noticed his various papers in the journals on the subject. Still, I admit, the work is 'remarkable,'—chiefly so as confirmatory of Mr. Higginbottom's opinion that the application of nitrate of silver subdues local inflammation. Mr. Jordan says it does so by counter-irritation. Mr. Higginbottom has not ventured to say how it acts. Possibly Mr. Jordan is right when he says it is by setting up another inflammation. The reviewer's explanation of how the application of counter-irritation does this is probably correct. I believe in the efficacy of Mr. Jordan's plan, although I have not found in my limited experience any advantage in applying the counter-irritant over the neighbouring skin instead of over the opposite skin. My object in this short paper is not to discuss the question, but to claim for Mr. Higginbottom the credit of treating surgical inflammation by counter-irritation many years ago."

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<sup>1</sup> Any of the foreign works may be procured by application to Williams and Norgate, of Henrietta Street, Covent Garden, W.C.; or to Messrs. Dulau, of Soho Square, W.C.

# THE PRACTITIONER.

JUNE, 1871.

## Original Communications.

### ERGOT OF RYE IN THE TREATMENT OF MENTAL DISEASES.

BY J. CRICHTON BROWNE, M.D., F.R.S.E.,

*Medical Director West Riding Asylum.*

DURING the last six years I have made an extensive series of experiments with ergot of rye in the treatment of the various forms of insanity, and have arrived at some results which I believe to be of considerable practical importance. A remark of Brown-Séquard's imputing to this drug the power of producing contraction in the vessels of the spinal cord, suggested to me, at the time which I have stated, the possibility that it might possess a similar control over the vessels of the brain, and might thus be made to modify the functional activity of that organ. This supposition derived probability from a perusal of many scattered observations in medical literature, as to the phenomena of ergotism, and was converted into a certainty in my own mind before I had pursued my investigations very far. As these proceeded it became, indeed, a matter of surprise that a medicinal substance, long known and prominently displaying in its toxic effects a potent influence over the nervous centres, should not have been resorted to at a much earlier period, as a

therapeutic agent in some of the disorders by which these centres are affected. The remarkable uterine relations of ergot, however, seem to have absorbed nearly all the attention bestowed on it. With the exception of Lallemand and Petrequin, who employed it with benefit in paraplegia, no one has thought it worthy of trial in cerebro-spinal lesions or derangement. No one certainly has tested its efficacy in those classes of cases which I am here to describe as peculiarly amenable to its benignant action. What these classes of cases are it may be as well at once to define, more especially as they do not include all those which the preliminary statement as to its physiological actions might appear to imply. My experience of ergot does not enable me to attribute to it, as yet, any advantageous action in many of those acute forms of mental disorder in which, from its alleged control over the dimensions of the intracranial vessels, it might have been presumed to be most useful. It only justifies me in asserting that it is eminently useful in certain varieties of (1st) recurrent mania, (2nd) chronic mania with lucid intervals, and (3rd) epileptic mania. In these forms of cerebral derangement I have found it almost uniformly efficacious in reducing excitement, in shortening attacks, in widening the intervals between them, occasionally in altogether preventing their recurrence, and in averting that perilous exhaustion by which excitement is so often succeeded. It can be scarcely requisite to point out that these actions which I have ascribed to ergot constitute it an invaluable instrument in asylum practice, as those conditions over which it is most influential are amongst those which have been hitherto regarded as highly intractable, and which, from the dangerous symptoms by which they are accompanied, have been unfailing sources of anxiety and harassment. Anything which will abridge the duration, or favourably modify the course of intermittent chronic or epileptic mania, must prove an inestimable boon, not only to the sufferers from these maladies, but to those who have to associate with them and wait upon them.

That the action of ergot in the conditions above enumerated, which I shall illustrate immediately by a selection of cases, is really due to a controlling power which it possesses over the dimensions of the blood-vessels, may, I think, be satisfactorily

established. Dr. Wright long ago indicated the possession of this power by ergot when he showed that it is an energetic styptic in hæmorrhage from wounds. Numerous other observations evince the existence of the same power. Thus the first and most frequent sign of the operations of ergot in the system is an intense feeling of formication over some portion of the cutaneous surface, generally in the limbs, while everything that occasions contraction of the minute vessels produces a precisely similar sensation. The distinguishing features of gangrenous ergotism—coldness, rigidity, anæsthesia, and sphacelus of those parts which suffer from it—unmistakeably betoken obstruction in the vessels, due to diminution in their calibre. The giddiness, dimness of vision, insensibility, tremor, paralysis, and coma, which mark the course of convulsive ergotism, are the symptoms known to characterise protracted cerebral anæmia, owing to spasm of vessels, and are sufficient evidence that the power claimed for ergot of controlling the dimensions of the blood-vessels extends over those contained within the cranium. For, notwithstanding the fact that in the encephalic arteries the middle and outer coats are much thinner than elsewhere, it is still obvious that they retain an adequate amount of contractibility to enable them to regulate nicely the blood-supply to those parts to which they are distributed, and to respond actively to stimuli applied to them. Histological researches leave no doubt that the cerebral arteries are endowed with muscular elements in all respects competent to regulate their dimensions under the peculiar circumstances in which their functions are performed. Donders and Callenfells have proved that contraction of the vessels of the pia mater is caused by irritation of the sympathetic nerves in the neck. M. Claude Bernard has demonstrated that there is elevation of temperature, with increased vascularity, not only of the external covering of the head and its appendages, but of the cerebral substance itself, when these nerves are divided. The modern theory of epilepsy is founded upon the contractibility of the encephalic vessels, the presence of which indeed admits of conclusive proof. It is through this contractibility that ergot appears to operate not merely in its poisonous effects, but in those also which are of a curative kind. Its influence over this contractibility of the vessels is not limited to their healthy state, but

is equally evident in various diseased conditions. Professor Willebrand found it of especial use in acute and chronic inflammation of the eye, and particularly in blepharitis and the pustular conjunctivitis of children, in which it reduced congestion and prevented relapse more effectually than any other means. Kelbs has pronounced it an antidote to carbonic oxide. In cases of poisoning by this gas, in which all the vessels of the head are in a state of extraordinary distension, owing to a loss of tone in their muscular coats, ergotine secures speedy recovery. It relieves the restlessness, tetanic spasms, and quiverings of the skin, and at once lessens the stupor and protrusion of the eyeballs. It acts, in fact, as I believe it does also in those cases of mental disease in which I have found it and other preparations of the drug so useful, by exerting a steady constricting power over the cerebral vessels when they are distended, and by doing this without entailing any liability to subsequent dilatations.

The mode in which ergot puts forth its influence over the contractile coats of the vessels, has not been clearly made out. There is some reason to suspect, however, that it exerts a direct action upon the non-striated fibres and cells contained in their coats. Ergot would seem to have a special power over involuntary muscular tissue. Its action on the uterus requires only to be mentioned. When injected into a vein, it depresses the action of the heart and finally paralyses it altogether. When taken by the mouth in large doses, it brings on severe colicky pains in the stomach and bowels. When present in the blood for a prolonged period, it gives rise to double cataract, which Wecker has traced to impairment of the nutrition of the lens, from defective blood-supply to the anterior portions of the uveal tract, on account of persistent spasm of the ciliary muscle. When administered medicinally, it is highly serviceable in retention of urine depending upon a want of tone in the muscular walls of the bladder. All these actions of ergot cannot be fairly referred to an influence on the vaso-motor or sympathetic system of nerves, but all are easily explicable on the supposition that it has an immediate effect upon the more striated muscular fibres.

I have said that the beneficial effects of ergot in certain forms of mental disease are to be attributed to its controlling power over



the intracranial vessels; and I have adduced several facts in confirmation and explanation of that statement. I believe, however, that its best corroboration is derived from the phenomena of these cases themselves. In 200 cases of insanity in which I have employed ergot, I have found it useful in none in which the theory of its action which I have suggested was not available; while in all those in which it has proved most advantageous, this theory was vindicated in various ways. In recurrent mania, in chronic mania with lucid intervals, and in epileptic mania, it is of course certain that the morbid condition upon which the mania depends, is of a dynamical and not of an organic kind, while it is probable that the morbid condition consists essentially in cerebral hyperæmia. Notwithstanding the manifest diversities of the three disorders named, it is still probable, nay more than probable, that they all depend upon cerebral hyperæmia. For we must bear in mind that cerebral hyperæmia is not one constant condition, uniform in its symptoms and progress, but rather one pathological basis for a variety of irreconcilable conditions. The symptoms by which cerebral hyperæmia is accompanied vary greatly, in accordance with the previous history and organic tendencies of the cerebrum itself, and the degree to which the hyperæmia reaches. They may appear as maniacal fury, when the brain substance is exhausted and irritable; in stupor where it is degenerated and enfeebled, or in vivacity and mobility where it is in vigorous health. Confusion of thought, despondency, moral obliquity, headache, sickness or coma, may each of them result from an excess of blood within the cranium, according to the previous experiences of the nervous matter, and the amount of the excess. The dissimilarity of the symptoms, therefore, in the three forms of mental disorders in which ergot has been found advantageous, does not constitute any ground for believing that they are not all referable to a determination of blood to the head, indicated in each of them by throbbings in the arteries, flushing and humidity of the face, suffusion of the eyes, cephalalgia and mental turgescence of greater or less severity and duration. A serious modification of the vascularity of the brain, in the direction of hyperæmia, can alone account for these phenomena, which are common to recurrent mania, chronic mania with lucid intervals,

and epileptic mania, and which are associated in each with secondary though prominent phenomena of a more or less distinctive character. The disappearance of these phenomena in the intervals of recurrent mania, in the interparoxysmal periods of epileptic mania, and in the intervals of lucidity in that species of chronic mania to which we refer, indicates unmistakably that the morbid condition has stopped short of organic changes, such as thickening of the meninges, or infiltration of purulent or fibro-plastic exudations; which would inevitably prevent any return to healthy function, either by a natural process or through the instrumentality of therapeutic means. It is this arrest of the morbid action at a point short of structural alteration of a grave description that affords an opportunity for the operation of ergot. Wherever grave anatomical lesions are present, ergot seems inefficacious; and hence, in those very disorders in which it is most useful, its utility is best vindicated when they are of recent occurrence. Maniacal attacks of every kind, frequently repeated, result gradually in organic degeneration, and hence become inaccessible to those influences which controlled them in their earlier and more dynamical stages. It is a striking circumstance that ergot becomes less and less energetic as mania merges into dementia, and as epilepsy asserts itself in physical degeneration. Several times obvious benefit has been derived from it in those congestive attacks which occur in the course of general paralysis, but only when these commence at an unusually early period of the disease. It has been utterly unsuccessful in controlling them at all the later epochs. So long as the walls of the vessels remained in a tolerably healthy state, it could exert its power; but whenever degeneration of their walls had advanced, or their motorial relations had been signally modified, then it was powerless for good.

In recurrent mania, which we shall first consider with reference to the ergot treatment, the characteristic feature consists in occasional outbreaks of excitement, separated by intervening periods in which sanity seems to be nearly or completely re-established. The duration of these intervening periods, as well as of the maniacal paroxysms, is subject to so much variation, even in the same case, that it is often difficult to estimate the effects of any treatment employed; sometimes, however, the

effect is so immediate and decisive that it must be recognized; and this has been so in many instances in which ergot has been resorted to.

S. G——, aged 45, single, and a domestic servant, was admitted into this Asylum on February 15th, 1871. The history of her case was as follows. She had been an inmate of the Bedford Asylum upon four occasions, but had held a situation in Rotherham without giving any indications of mental unsoundness for several years past. For some weeks previous to the commencement of her present illness, subsequent to some quarrels with her fellow-servants, she had complained of pain in the head and giddiness, but had remained rational until the evening of the 9th of February, when she grew talkative, restless, and incoherent. Great violence of conduct and muscular and mental agitation were developed on the 10th, and on the 11th reached such a pitch that mechanical restraint was deemed necessary. She had become steadily worse until brought to this asylum. On examination, she was found to be in a state of mania, talking incessantly in a rambling and discursive style, but capable of answering questions, and of recalling, in a confused way, both recent and remote events, when her attention was urgently solicited. She described numerous hallucinations—visions of Prince Albert of dazzling brightness, messages from her mother, whispered through the pillow into her right ear, sulphurous odours, and pins and needles in the forearms and back. She was much flushed. Her ears were of a bright red colour, her pupils contracted and sluggish in their movements, and her eyelids twitched spasmodically. The pulse was 120, and the tongue coated with a thick white fur. During the night of the 15th, she was very noisy and altogether sleepless, and on the morning of the 16th was in precisely the same state, mental and bodily, as on the previous day. The liquid extract of ergot was ordered: ʒss. to be taken three times a day. After the second dose of this, the restlessness and garrulity began to abate. The night of the 16th was passed in quiet sleep, and on the 18th convalescence was complete. The medicine was continued for a week, and then omitted. S. G—— continued in a rational and healthy state until the 10th of March, when maniacal symptoms again suddenly supervened in the early

morning, and went on increasing in severity throughout the day. In the evening, ergot was again administered, as also on the following morning, after a night of stormy excitement. The third dose was followed by mitigation, and the fourth by restoration to tranquillity and a reasonable state of mind. S. G—— has remained well up to the present time.

Where the paroxysms of recurrent mania have assumed a periodical character, the influence of treatment can of course be tested with greater accuracy. It has been alleged that no treatment is efficacious under such circumstances, and that medicine cannot break through a maniacal habit of this kind once finally formed. The allegation is now, however, no longer tenable, as ergot possesses in a conspicuous degree the power of interrupting such periodicity, and abridging those attacks of mental aberration which recur at regular intervals. M. W——, female, aged 48, married, was admitted here for the third time on March 5th, 1853, and was so wildly and intractably vicious that she was placed in an article of dress then fashionable in asylums, and euphemistically termed "sleeves." Since that date up to the present time, she has remained an inmate of the asylum, and has suffered from two attacks of insanity annually—one beginning in January and the other in July—and each succeeded by an interval of clear and rational understanding. The maniacal attacks were of the most fierce description, so that she was regarded as one of the most formidable patients in the asylum. When affected by them, she spent the greater part of the night in singing in a shrill voice, and beating on the door of her room, and the day in obscene and disjointed conversation, in cunningly devised mischief, or in furious assaults upon those around her. Up till 1867, these attacks, which were introduced by a few days of quiet despondency, lasted for about three months each, and set all treatment at defiance. In January of that year, however, at the beginning of the winter attack, tincture of ergot was administered in doses of ʒij. three times a day, and was continued for one month, at the end of which time it abruptly cut short the excitement, much to the gratification and astonishment of those who had watched previous outbreaks, and contended with them for three months together. And not only was the attack abbreviated, but its character was altered.

After the first week, no violence was manifested, excitement being chiefly displayed by vigorous singing and headlong knitting. Since then every attack but one has punctually announced itself at each of the stated times, has been curtailed and modified in the same way. No attack has exceeded six weeks in duration, and two have continued only for a fortnight. All of them have been of a milder type, and all of them have been treated with tincture of ergot.

In another class of cases of recurrent insanity in which the attack is ushered in by epileptiform seizure, and in which periodicity may or may not be observable, ergot is again equally beneficial. M. E——, widow, aged 70, was re-admitted into the West Riding Asylum on April 15th, 1865, and since then has suffered twice or thrice a year at irregular intervals from paroxysms of mania, invariably preceded by a few convulsive attacks to which she is at no other time liable. The paroxysms have lasted for a month or six weeks, and have left her in an emaciated and exhausted state. During their continuance she is restless, raves uninterruptedly in a good natural strain, and picks into threads any clothing that she can lay hold of, and fancies that she is hemmed in by a crowd of good spirits and affectionate relatives. At the same time there is congestion of the head and face, muscular tremor, quickness of the pulse and dryness of the mouth. In the long intervals between the paroxysms she is a sensible, industrious, well-disposed old woman, unusually intelligent considering her age and social position. In the last three paroxysms ergot has been given, and has arrested each of them in its incipient stage. In each of them the excitement has lasted for only three days, and has been very trifling when contrasted with former outbreaks.

In a certain class of cases of chronic mania ergot is, as we have said, very useful. The class includes but a small number of those suffering from chronic mania to be found in every asylum, but is still sufficiently numerous to furnish frequent illustrations. It embraces those in which the mania has not passed through any distinct acute stage, in which the intellectual faculties are still active, and in which lucid intervals occasionally occur. Wherever the restlessness, delusional excitement, and morbid propensities of chronic mania have not been

consecutive upon acute mania, co-exist with vivid perceptions and a tenacious memory, and are subject to interruptions however brief in which mental sobriety and vigour appear to be restored, then ergot may be resorted to with sanguine expectations that it will favourably influence the course of the disease. E. G—— housewife, married, aged 51, was admitted to the West Riding Asylum on September 10th, 1866, having been for a considerable period peculiar in her manner and irritable and excitable. During her long residence here, she has been ordinarily garrulous and subject to delusions on religious matters, believing that she has special communications with God and the power of dispensing His blessings around. From time to time she has been for a few weeks tranquil and rational, perhaps slightly depressed, conversing, however, freely and intelligently. Much more frequently she has undergone exacerbations of excitement, roaming about and gesticulating with exuberant energy, and shouting out fragments of exhortations and prayers. On June 25th, 1868, on the appearance of one of these exacerbations, ergot was ordered: *ʒij.* of the tincture to be taken three times a day. The result was that an interval of lucidity was at once inaugurated. Since then every threatened exacerbation has been similarly treated, and with similar success. E. G—— is altogether calmer and better in bodily and mental health than she was three years ago.

W. H——, aged 35, single, a farm-labourer, was admitted on October 14th, 1870, apparently emerging from an attack of delirium tremens, the third or fourth from which he had suffered, incurred this time by indiscretions at the Doncaster races. He imagined himself assailed by devils, whom he saw distinctly in the darkness, and by malignant whispers which were hissed into his ears. He was sleepless, and complained of a strange spinning sensation as if produced by machinery in the back of his head, dimness of vision, and pain in the epigastrium. After a few days of rest and nourishing food he became composed, and passed into a chronic state, in which he gave utterance to various delusions, varied by intervals, very short, of sound sense and coherence, and by outbursts of impulsive violence. The expression of his countenance was stolid, his pupils were contracted, and the systole of the heart was soft at the base, and

the pulse was 81 per minute. In his lucid moments he deplored the violence to which he at other times gave way, but which he said he could not restrain. Once a week an attack of excitement occurred, in which, as opportunity permitted, he smashed windows and furniture, and vociferated loudly. These attacks lasted for four days, when he resumed his stupid habit. On November 8th the third of these came on, with the usual holocaust of window-panes. Hydrate of chloral was ordered. On the 9th he is reported as still greatly excited, with a hot head and a pulse of 96. As the chloral had exerted no effect, 3j. of the liquid extract of ergot was ordered every four hours. On November 10th he was much quieter, keeping in bed, and free from restlessness. Since then up to the present date he has taken the ergot from time to time, and has had no attack of excitement. He still hears the whisperings, but they do not disturb his equanimity; while in bodily health he has decidedly gained ground. He has advanced in weight from 158 to 162 lbs. Recovery was scarcely to be looked for in such a case. Alleviation, however, and perhaps prolongation of life, have been secured, with preservation of property and a material accession of comfort to those whose lot it is to live along with W. H——.

In a few cases of chronic mania in which the lucid intervals have not been distinctly marked, ergot has still been beneficial. In these, however, there have always been singular fluctuations in the degree of maniacal excitement, and the retention of intelligence apart from the delusional region of thought.

M. B——, aged 39, admitted May 16th, 1865, labours under the distressing idea that her children and relations have been the victims of a foul plot, have been chopped into mincemeat by the officers of the asylum, and that their mutilated remains, tied up in canvas bags, are concealed in the cellars beneath the ward which she inhabits, whence they hourly cry aloud for vengeance. Familiarity has bred in her a sort of complacent toleration of her family wrongs. In her ordinary state she is comparatively tranquil, and will even hold intercourse with the mutilators of her offspring. She paces up and down the corridors, listening attentively at certain corners for voices from the horrible canvas bags, and whispering back messages of comfort. Once in every

two or three months, however, her wrongs press in upon her with renewed force and poignancy. Calmness gives place to noisy vituperation, and self-control to violence. With a flushed face, a glaring eye, and swinging arms, she paces about denouncing the traitors and murderers who surround her, in a harsh dissonant voice and with copious abuse. She passes, in short, into a maniacal exacerbation in which there are heat of head, acceleration of the pulse, restlessness, sleeplessness, and general noisy excitement. Having tried, without satisfactory results, in these exacerbations, opium, cannabis Indica with bromide of potassium, and muriate of ammonia, it occurred to me about eighteen months ago to employ ergot, which has since been used in every recurring attack with unimpeachable benefit. On the first occasion the attack, which had not reached the middle of its usual course, was at once arrested. On all subsequent occasions it has arrested or modified the attack. The facial hyperæmia disappears, the pulse is reduced in frequency, and the extraordinary excitement diminished. It has to be continued for some time, as when it is omitted turbulence and clamour return.

It is in epileptic mania that ergot has been found pre-eminently valuable in allaying and abolishing excitement, and in conducing to a healthier tone of mental action. In these outbursts of violent agitation which precede or follow a fit or group of fits, which occasionally take their place, and which have been pronounced by all authorities to be of so dangerous a character, it exerts a prompt and energetic effect. We may presume that these outbursts are dependent upon a want of equilibrium in the intracranial circulation, primarily disturbed by the epileptic seizure or condition. The distension of the vessels, which succeeds their spasmodic contraction and produces coma, subsides so far as to allow the resumption of activity by the higher centres, but only in an irregular and distorted way. And we may presume further, that the soothing and rectifying effects of ergot are due to its power of re-establishing that disturbed equilibrium. E. S——, aged 35, a labourer, married, was admitted on the 13th November, 1869. He had suffered from epilepsy from his fifteenth year, and had latterly become so violent before and after the fits, that it was not thought safe for



him to be any longer at liberty. In the first year of his residence in the asylum he had repeated paroxysms of maniacal excitement, generally introduced by a fit of uncommon severity, preceded in its turn by lancinating pains in the brow. The aggressiveness and recklessness of conduct displayed in these paroxysms, coupled with the great muscular strength of E. S——, rendered him a most formidable patient to have to deal with. Bromide of potassium, iodide of potassium, and belladonna having controlled the excitement in no degree, ergot was administered on the 10th of November, 1870, during the progress of an *émeute* of the usual kind, in which with a wild, bewildered stare, a flushed face, throbbing carotids, and dry lips, he staggered about his room or tossed on his bed, spluttering out threats and imprecations. The excitement, which had subsisted for three days, was instantly overcome by the ergot. On November 11th, his pulse was quiet, his head cool, and his manner calm and collected. He was anxious to go to work. On November 16th bromide of potassium was substituted for the ergot. On November 30th he again became much excited after a severe fit. Congestion of the head and face and combative propensities were again noted, as well as a pulse of 100, full and bounding, and a temperature in the axilla of  $98\frac{3}{4}^{\circ}$ . The liquid extract of ergot in  $\bar{5}j.$  doses was ordered every four hours, and the next day improvement was again recorded, marked by abatement of excitement and of the facial congestion, and a fall in the pulse to 90. In one day more no excitement remained. Since then a dose of ergot,  $\bar{3}j.$ , has been taken regularly twice a day, and has prevented all maniacal paroxysms. E. S—— has been uniformly well behaved, and has had severe fits without any surrounding mental perturbation. In November his weight was 159 lbs. It is now 168 lbs.

M. H——, aged 23, single, admitted March 13th, 1869, has been epileptic for many years, and is excited from time to time. When excited, she rushes about kicking everything that comes in her way, and attempting suicide by tearing at her throat. For some months after her admission these attacks of excitement, which recurred irregularly, always lasted for a week. In July 1869, tincture of ergot in  $\bar{3}j.$  doses was tried in one of them, and cut it short in the most satisfactory way in twelve

hours. Since then it has been repeatedly employed under similar circumstances, and always with beneficial results. Not only does it interrupt the excitement, but it lessens its tendency to return, and mitigates its intensity. No attempts at suicide have been made for twelve months past, and during that time no increase of mental deterioration has taken place.

M. H——, aged 21, married, was sent to the West Riding Asylum on 19th December, 1870, because she had become liable to attacks of furious and ungovernable excitement, in consequence of epileptic fits which had affected her for seven years, and become much aggravated after her marriage three years ago. A sister died of epilepsy. She had recently attempted to murder her husband and cut her own throat, and was when admitted covered with bruises sustained in her struggles and conflicts. She was pale and anæmic, with dilated pupils, a feeble pulse, a stolid sluggish countenance, slow lumbering manner, and obvious defects of attention, memory, and intellect generally. Fits happened daily, and bromide of potassium was taken regularly. On the morning of January 2nd 1871, after immunity from fits for two days, sudden excitement supervened. She rose out of bed and began to quarrel with and assault her companions, throw about the furniture, and shriek out. She could not be made to understand anything that was said to her. The face was flushed, her pulse 120. ʒij. of tincture of ergot was ordered to be taken three times a day. The first dose seemed to diminish the excitement; the second produced a deep sleep, in which the pulse fell to 90; and the third restored her to perfect composure. In two subsequent attacks of excitement the ergot has also acted well. The patient has improved so much in her general health and in mental power, that her friends are now pressing for her discharge.

E. G——, aged 23, married, was admitted on November 23rd, 1870, having been epileptic from her fourteenth year, and having become notably worse after each of her three confinements. Since the last of these, which took place in 1867, she has been subject to occasional maniacal paroxysms, always consecutive upon a series of quickly successive fits occurring during the night. When admitted, she had the expression and bearing of an habitual epileptic; drawled out slow childish answers when

questioned, and was anæmic and emaciated. Treatment consisted in large doses of bromide of potassium. On Nov. 28th, an attack of excitement came on, after several fits in the night. She wandered about, disarranged the furniture, and gave utterance to inarticulate cries. Ergot was given instead of the bromide: ʒss. of the liquid extract being administered three times a day. Speedy quiescence was thus obtained. In twelve hours no trace of excitement remained, nor did any recurrence of it take place until January 28th, 1871, when it again yielded at once to the same remedy. Whenever the excitement ceases, the bromide of potassium is administered; when any premonition of its return appears, the ergot. The patient is certainly clearer in intellect than when admitted, while the fits from which she suffers have diminished in number.

A very large number of cases could be quoted, did space permit, to illustrate the usefulness of ergot in lunatic asylum practice. Those given above, however, selected not because they are most conclusive, but simply because they were most easy of reference, are sufficient to indicate that it has been found exceedingly beneficial in recurrent mania, in chronic mania with lucid intervals, and in epileptic mania, and that its actions on such disorders merit further investigation. Several gentlemen who have been members of the medical staff here, and have watched the ergot treatment of these diseases, have felt so convinced of its efficacy that they have introduced it into other asylums, with which they are now connected, and I believe with marked success.

It can be scarcely requisite to point out that as ergot becomes damaged by age or exposure, it is of great importance to ascertain that that used is in a sound condition, in order that advantage may be secured from its employment. A judicious regulation of the doses administered is also imperative, in order that the desired effects may be obtained. These require to be very large. From ʒj. to ʒij. of the pharmacopœal tincture, from ʒss. to ʒj. of the liquid extract, and from gr. v. to gr. x. of ergotine, may be administered without apprehension. No evil effects have been observed here to follow from such doses, even when long continued. Patients have occasionally complained of headache, indistinctness of vision, and formication, and anæsthesia of the

hands and feet, but no more serious consequences have ever occurred. Indeed, so little have injurious effects of any kind followed even the prolonged exhibition of what might be termed enormous doses of ergot, that doubts might have arisen as to whether it were possible to produce that train of symptoms described as ergotism, by means of the medicinal preparations of *secale cornutum*. In a great majority of cases, however, the beneficial effects of this remedy, here described, will be secured by its employment for a time so short, that no anxiety as to ulterior consequences could by any possibility arise.

## SOME FURTHER ADDITIONS TO THERAPEUTICS.

BY BENJAMIN W. RICHARDSON, M.D. F.R.S.

### I. ORGANIC BROMIDES.

THE success that has attended the administration of some of the inorganic bromides, the potassium bromide especially, has led me in the past few months to prescribe organic bromides, and as the results of the experience have been in many ways satisfactory, I venture to record them. The physiological action of bromine itself—the element—is definite and well pronounced. In the old parlance it is an irritant, but the term does not strictly indicate all that it effects. To a certain extent a volatile body, it produces, when it is inhaled, a peculiar constricting action in the vessels which supply the secreting surfaces with their blood, so that inhalation of its diluted vapour makes the mucous surfaces with which it comes into contact dry and painful. After a time there is what may be called a reaction, due probably to temporary paralysis of the vessels, and then there follows a free excretion of fluid, what the older writers would designate a flux or salivation, attended with some degree of local insensibility.

Applied directly, in the liquid form, to the body, and especially to a mucous surface, it acts as a direct destructive of tissue, not precisely as a caustic, but as a substance which leads to shrinking and slow death, with still more determinate local insensibility.

In combination with other elements, as with potassium, its direct action is modified but not removed. Passing through the tissues in a condition of fine distribution, and probably separating from its ally, it exerts on the nervous matter its special sedative influence, causing, if it be carried far enough, its direct

paralysing influence over the vessels which govern secretion, and leading to a certain extent to decreased sensibility of the nerves which govern common sensibility.

On the whole, bromine may be considered as a medicine which acts primarily on the sympathetic or organic system of the nervous system, and as a modifier of vascular tension; and this, whether it be applied locally and directly, or generally and indirectly—*i. e.* in combination.

Thus we may rationally administer bromine with any other substance with which it will enter into chemical form of combination; we may trust to the development of its due independent action, without regard to the action of the substance with which it may be combined, and we may be satisfied that it will not materially interfere with the action of the agent with which it has been made to combine.

#### BROMIDE OF QUININE.

Bromide of quinine is formed by subjecting the alkaloid quinia to hydrobromic acid, or by acting on a salt of the alkaloid with bromide of potassium. The bromide of quinine is soluble, and, mixed with simple syrup, is ready for administration as a medicine. I prefer to employ it as a syrup containing one grain of it in every fluid drachm. The dose of this syrup is from one to four fluid drachms.

#### BROMIDE OF MORPHINE.

Bromide of morphine is made by a similar process to that used for making bromide of quinine; morphine or a salt of morphine being substituted for quinine or a quinine salt. This compound also makes up best in the form of a syrup, and the preparation I prescribe contains an eighth of a grain of bromide of morphine in a fluid drachm of simple syrup. The dose of this syrup is from one to four fluid drachms.

#### BROMIDE OF STRYCHNINE.

Bromide of strychnine is made in the same way as the two last-named preparations; strychnine, or a salt of it, taking the place

of quinine or morphine. This, again, I always prescribe as a syrup, one thirty-second of a grain of the bromide being contained in one fluid drachm of the simple syrup. The dose of this syrup is from one to four fluid drachms.

#### COMBINATIONS.

I am in the habit of sometimes combining the preparations named above, in order to suit particular cases of disease. For example, I combine the bromide of quinine and morphine in syrup, so that each fluid drachm of the syrup contains a grain of the salt of quinine with an eighth of a grain of the salt of morphine; or I combine the three salts, so that the fluid drachm of syrup contains a grain of the quinine, an eighth of a grain of the morphine, and a thirty-second of a grain of the strychnine salt. Speaking generally of all these salts, I may state that, in action, the bromide throughout, in so far as its action is indicated, is eliminative and sedative. I am satisfied the bromide of quinine can be administered freely, when quinine itself, or other salts of it, cannot be readily tolerated. I am equally clear that the bromide favours the sedative action of morphia, while it at the same time allays the astringency which morphia induces; and lastly, I am satisfied from experiment that bromide reduces, or rather subdues and prolongs, the action of strychnine on muscular motion.

#### NOTES ON PRACTICE.

I have prescribed bromide of quinine, and the other bromides named, in a large number of cases of disease, and with results I did not fully expect. I will proceed briefly to indicate the leading facts that have occurred to me in the course of observation.

Bromide of quinine simply appears to me to be of good service in cases where certain special and persistent symptoms follow upon syphilis. I hardly speak now of the symptoms which patients themselves connect with that malady, but rather of those insidious symptoms which we, as medical men, who have lived long enough to have seen years of practice, trace back to a syphilitic basis, hereditary or acquired. A case of recurring rheumatism of this nature; a case of recurring ulceration of the

fauces; a case of general nervous exhaustion, with flying pains in the limbs, loss of appetite, general debility, loss of hair, and remaining thickening enlargement in the groin, a sequence of bubo: these have been instances in which the administration of the bromide of quinine, in doses of from two to three grains three times a day, has been more immediately and determinately beneficial than any other treatment I have either practised myself, or seen practised by my brethren of physic, in such forms of disease.

One great advantage of this preparation seems to me to be, that it allows one to give much larger doses of quinine than are common, and in frequent and continued doses without setting up the symptoms of headache, oppression, and ringing in the ears, which mark what has been called cinchonism. Thus we may give three grains of bromide of quinine, three times a day, without inconvenience for several days if a smaller dose does not suffice.

I have an idea that the bromide of quinine might be administered with advantage in the earlier stages of the contagious diseases, such as small-pox. It would, I think, allay the severe nervous symptoms which usher in these diseases, and so moderate the secondary symptoms that follow in train. Since I began to introduce the bromide into practice, I have not had an opportunity of putting this suggestion to the test, but I have sent some of the preparation to Mr. Marson, of the Small-pox Hospital, asking him to give it impartial trial. I have also asked my friend Dr. Broadbent to make trial of it at the Fever Hospital in cases of acute febrile disorders. The results they obtain I shall hope to communicate in a future number of this journal.

*Bromide of morphine* is a useful addition to the salts of the alkaloid. It seems to me that a smaller dose of the salt than is effective in the case of the other morphine salts produces as distinct a narcotic influence, and also that the dose may be repeated more frequently without producing those after-effects of an opiate which tell against repetition of administration. For instance, in a case of extreme depression of a nervous kind, attended with determinate insania, in which, owing to the headache and nausea it produced, the muriate of morphia had been replaced by chloral hydrate, as the latter remedy had been



continued until it had become hurtful, I prescribed the fourth of a grain of bromide of morphia at bedtime with excellent results, producing sleep without production of nausea or other distressing symptom. Knowing too well how apt we are to ascribe an efficacy to new remedies which belongs to other causes, I pen these first impressions on the action of this bromide with all due reserve. I write, in fact, mainly to secure the larger experience which will ensue when many acute observers are bringing the same remedy into daily use.

*The Bromides of Quinine and Morphine* in combination constitute a remedy of which, in cases suited for their administration, I cannot speak too favourably. Four classes of disease seem to me to be specially benefited by this compound; viz., neuralgic fever, cerebral irritation, diabetic phthisis, and extreme acute attacks of intermittent pulse, the result of organic nervous shock. In acute neuralgia I administer a drachm of the syrup of bromide of quinine and morphia to an adult every two hours until the pain is altogether removed, and am able to report not only that pains can be effectually removed by it, but that the medicine exerts no derangement of the body that lessens its value. It calms pain without inducing deep narcotism, it interferes little with the secretions, it rarely causes nausea, and it interferes little with the appetite. In the case of an esteemed member of our own profession, who has been for twelve months under my care, suffering from right hemiplegia, the most distressing symptom I have had to meet has been intense sciatic neuralgia. After a run of all narcotic tonic measures, I found happily in the bromide of quinine and iron a remedy which has now for three months held him free of suffering, and, as a consequence of freedom from pain and sleepless weariness, has led to a distinct improvement in his general health.

In diabetic phthisis I have administered the bromide of quinine and morphia with the same freedom. Under its influence, in these cases, the quantity of sugar and of fluid excreted by the urine notably decreases, cough is relieved, the appetite and digesting power is improved, and recurrent hectic is held in abeyance more certainly, I think, than by any other remedy or combination of remedies with which I am practically conversant.

In a case of intermittent pulse, where the lapse in the heart-stroke was painfully frequent, where there was continued feverish restlessness, and a fear of going to sleep that more than all sustained the irregular nervous action, the symptoms gave way at once under a few doses of bromide of quinine and morphia in a manner that was as gratifying to the prescriber as to the patient. The purpose of the medicine, in a word, was promptly fulfilled, and as demonstrably as if it had afforded mechanical instead of therapeutical relief. In a second case of intermittent pulse, where the intermittency is the prelude of great mental excitement, followed by depression and melancholia, the remedy has exerted a similar beneficent influence. It induces rest and sleep without the production of deep narcotism and without deranging digestion.

*The Bromide of Strychnine* has rendered unquestionable service in a few cases of dyspepsia with and from deficient nervous control over the vascular supply of the organs concerned in the process of digestion, in cases of partial organic nervous paralysis of the ventricular division of the organic nervous system. In such cases of disease, and they are by no means uncommon, where, when the body is without food, there is a knowledge of hunger without the true sense of it; when there is congestion of liver, and suppressed secretion to-day, accompanied by giddiness and irritability and præcordial oppression with diarrhoea to-morrow, and then constipation: in these cases the bromide of strychnine in the proportion of one thirty-second of a grain may be given three times daily with marked advantage, an alterative being at the same time occasionally added.

In some mixed cases of nervous pain, with want of organic nervous action in the digestive organs, I have combined the bromide of strychnine with bromide of quinine, and in many cases of this nature I have prescribed the three bromides with good result.

Syrup of the bromide of quinine and strychnine, and syrup of the bromide of quinine, morphine, and strychnine, will both, I believe, become favourite compounds with the profession, finding their place as Eastin's syrup of the superphosphate of iron, quinine, and strychnine has found its place in the list of tried and approved medicaments.

One other point of practice remains to me only to note. In cases where there is much dryness and irritability of the mucous membrane of the pharynx and larynx, the bromides are not commendable; the bromine increases the irritation. This was so marked in a case where there was a small ulcerated surface in the larynx, that I had to stop the administration altogether, the smallest dose producing violent and long-continued irritative cough and spasm.

#### HYDROBROMIC ETHER.

Amongst other bromides that have medicinal qualities is hydrobromic ether, bromide of ethyl— $C_2H_5Br$ . This ether is a light volatile liquid made by distilling four parts of powdered bromide of potassium, with five parts of a mixture consisting of two parts of strong sulphuric acid and one of alcohol, having a boiling-point of  $104^\circ$  Fahr., a specific gravity of 1.400, and a vapour density of 54, taking hydrogen as unity. It is nearly insoluble in the blood.

This ether is of interest from the fact that the late Mr. Nunneley of Leeds proposed and used it as a general anæsthetic, and came to the conclusion that it was the best and safest of all known anæsthetic substances. A few weeks before his death I had the pleasure of visiting Mr. Nunneley, and in the course of our many conversations on scientific subjects, he spoke again of his experience with the bromide, and begged of me to submit it to a fair and strict investigation. I have carried out his wish, and can report upon hydrobromic ether, that it is as Mr. Nunneley said of it, one of the safest of general anæsthetics. An atmosphere containing from eight to nine per cent. of the vapour of the bromide of ethyl, causes when inhaled entire destruction of common sensibility, rapidly and safely. The breathing remains tranquil, the pulse quiet, the expression good; the transition from the first to the third degree of narcotism is moreover so rapid that the second degree—degree of muscular excitement—is scarcely recognizable. There is no sign of apnœa; and when, in animals, the inhalation is carried to the extreme, the resistance of the heart to the paralyzing action of the narcotic is good. As might be expected from the low boiling-point of the

ether, 104° Fahr., and its insolubility in the blood, it is rapidly eliminated from the body when it has been withdrawn, so that the period of recovery is short, from three to five minutes.

When inferior animals are made to sleep into death by the vapour of the bromide of ethyl, the heart is found, directly after death, with blood on both sides and free of vascular congestion. The colour of the blood on each side is natural, and the lungs are left charged, without being surcharged, with blood. The coagulation of the blood is natural. The heart retains its irritability for as long a period of time as after death from methylic ether.

Mr. Nunneley's favourable opinion on the action of hydrobromic ether is therefore confirmed in respect to essentials, but I am not thereupon inclined to suggest that it should be employed in place of other and better known general anæsthetics. For, irrespectively of the trouble and cost of making the ether, it has certain faults which are opposed to its general employment. It causes irritation of the throat in some cases and occasionally vomiting: added to these objections, the fluid easily undergoes change on exposure to the air, with liberation of free bromine, when it becomes difficult, if not dangerous, to inhale.

#### BROMIDE OF METHYL.

In 1867-8 I made some researches with bromide of methyl,  $C H_5 Br$ , a gas made by mixing at a low temperature fifty parts of bromine, two hundred of methylic alcohol, and seven of phosphorus. By using cold the ether can be distilled over as a fluid, but it boils at 55° Fahr. and is therefore at ordinary temperature a gas. Its vapour density is 48. Bromide of methyl, like bromide of ethyl, is an anæsthetic equally effective as the latter, and sharing in all its faults.

As matter of physiological rather than of practical interest, I have recorded these facts respecting the bromides of ethyl and methyl; but there is another point in which they may be considered, and which is of direct practical worth. They are both powerful deodorizers and destructives of decomposing organic matter; and as they are from their volatility capable of being conveyed in fluid state of subdivision, they might be employed

with advantage in many forms of disease. In phagedenic or malignant ulceration of the throat or skin, in cases where a cavity in the lung contains offensive secretion, and in uterine affections where there is accumulation of decomposing fluid, the hydrobromic ether, as the most manageable, might well be brought into action. It could be inhaled when the throat or lungs were the seats of disease; it could be allowed simply to diffuse from cotton-wool over open surfaces or into the uterine cavity.

## ON VACCINATION.—THE ADVANTAGES OF “BRYCE’S TEST.”

BY AMOS BEARDSLEY, SURGEON, ETC.

*Consulting Medical Officer to the Barrow Hospital, &c.*

DR. JENNER was as emphatic in his opinion that you may have a *local* appearance only, without any *constitutional* affection in the practice of vaccination, and that it was only those who had undergone *both* that were unsusceptible of small-pox, as he was that “cow-pock protects the human constitution from the infection of small-pox; not merely for a few years, but for life.”

The whole of the early history of vaccination distinctly corroborates this, and we find the first promoters of it to be sensibly impressed with this fact, and that they considered it a desideratum to discover some test of a constitutional affection having taken place.

The fact of having a *local* affection only was known to the parties who practised inoculation for small-pox, and was ascertained from the various anomalous appearances of the pustules, from their earlier or later appearance, &c. This led to a second inoculation, and in the details of cases published by Dr. Dimsdale, in 1769, are some very instructive facts relating thereto.

In the progress of the cow-pock vesicle these variations were found to be more marked even than they were in the small-pox pustule; and it was early discovered to be more difficult to ascertain the presence of a constitutional affection in cow-pock, than it was in inoculation for small-pox; and this does not seem unreasonable to expect, when you reflect that you are substituting a milder for a more serious disease, and it is not improbable that in proportion as the substitute is divested of its more dan-

gerous concomitants, contagion, &c., that more care is absolutely required in the production of the milder disease.

Dr. Bryce introduced the practice of vaccination into Scotland in 1802, and he was early impressed with the desirability of a "well-defined mark whereby to judge of a general affection," for he says, "until this be established, our judgment of the efficacy of the cow-pox inoculation in preventing small-pox must often be formed with doubt and anxiety, and too frequently prove ultimately erroneous." He was aware of the acceleration of the pustules in small-pox inoculation; and had observed an accidental case in connection with vaccination. Moreover, he was fully persuaded that from the irregularities, both in reference to "the exact degree of the size of the vesicle, or of the surrounding inflammation and hardness," that he had "no certain rule" to determine a constitutional affection, inasmuch that in some of the mildest cases—that is, when the local appearances were least marked—there was no proof that the constitution had not been operated upon; so again in others, a false security had been relied upon, as afterwards proved from great local disturbance when the constitution had not been affected.

Bryce was fully satisfied that you might have a local without a constitutional affection, and he rightly judged that, if ever this was ignored, we should be in danger of losing a great portion of the boon vaccination was calculated to bestow upon us.

He therefore proposed that a few days after the primary vaccination, lymph should be again inserted into the arm of the child. If you had a "consentaneous general action" in the system, *both vesicles would mature at the same time, and both would die away together.* This he found to be correct, and his work published in 1802 details his experiments and their results. So, on the other hand, if the second vesicle went through all the stages of the primary vesicle, it was a distinct proof that the first operation was a mere local affection, and had exercised no protective influence whatever over the constitution against the small-pox.

Dr. Bryce said, "Inattention to this circumstance, viz. that the action of the virus of cow-pox may be often merely local, has been a fruitful source of error and disappointment in conducting the new inoculation;" and again, "If on the one hand we judge

that the cow-pox affection has been complete, when it has been only local, the person will be left exposed to all the horrors of the natural small-pox, which a false judgment given, of absolute security from the disease, had taught him to despise. And if, on the other hand, we judge that the cow-pox affection has been merely local, when it has in reality been general, we are induced to repeat the inoculation again and again; and as the appearance of each of these re-inoculations will vary, and neither a regular vesicle nor fever ever be produced, the same uncertainty will still remain, until at length the inoculation for small-pox itself comes necessarily to be performed."

By the practice of his "Test," all this uncertainty is removed, and you are enabled at once, at the period of the primary vaccination, to ascertain which are, and which are not, protected from any liability to the ravages of small-pox.

Negligence of this warning of Jenner, and carelessness in reference to the present mode of vaccination, which is carried on by legal enactment with a perfect disrespect of this fact, that you may have a *local* without a constitutional affection, has led to the false security the nation has been lulled into; and the present outbreak of small-pox in the kingdom, is only the natural consequence of neglecting the warning so freely given, not only by the discoverer of vaccination, but by all his early followers.

And any negligence of the true principles upon which experience has taught us that vaccination should be carried out, is actually ignored, and the failure of protection against small-pox is put down against vaccination itself.

There can be no fact, in connection with the subject of vaccination, of greater importance than this, that you have no *local* appearance to rely upon as a guarantee of a constitutional security against small-pox. Not only is this true in reference to the vesicle watched very carefully during its progress, but it is equally true in reference to any marks or cicatrix left after the operation.

From neither are you able to pronounce a constitutional protection.

Dr. Labatt, who introduced vaccination into Ireland, is very plain in reference to this. In speaking of the appearance of the cicatrix, after an experience of nearly forty years, he says, "I now



know that the presence of the characteristic cicatrix is not a certain proof of constitutional security, nor its absence of the contrary." And in alluding to the appearance of the vesicle itself, its varied modified forms, its early or its late advancement, the appearance of the areola, &c., he gives ample proof that in many cases it is impossible to decide after repeated inspections, both during the progress of the vesicle, the appearance of the areola, and the desiccation of the crust, whether the parties have really undergone a constitutional protection. Yet the law now says one inspection is only requisite, and as a direct and natural consequence, thousands pass through a local disease who are completely unprotected from liability to small-pox, and actually form a basis for present and future epidemics.

So fully did Dr. Labatt's extended experience convince him of this truth, that we find him writing, "Imperfect or spurious cases often exhibit strong indications of the system being affected;" and again, "It should always be borne in mind that the purest cow-pock lymph, from circumstances connected with the state of the recipient at the time, produce an imperfect vesicle, of which we often see examples in practice. I have seen infection from the same source produce in one child a genuine, in another a spurious vesicle, and in a third fail altogether." Does it seem wise in face of evidence like this to trust to *local* appearances only, and not resort to a constitutional test, which at once clears up all uncertainty, and defines which cases have been local and which have been constitutional?

What is the opinion of Dr. Labatt as to Bryce's Test? He says, "Convinced of the advantages of Bryce's Test, I never fail to use it, when I can overcome the prejudice parents have against 'cutting their children a second time.' . . . I look upon it as decidedly preferable to periodical re-vaccinations, because it affords more satisfactory evidence of *constitutional vaccine action*."

Its superiority consists in this. If you test the constitution during the progress of the primary vesicle, you clearly ascertain the "consentaneous general action" which Dr. Bryce relied upon. In all the re-vaccinations in after-life, you have great varieties of local appearance, which are familiar to most vaccinators now-a-days,—from that of a mere speck to one of

phlegmonous and erysipelatous inflammation extending all over the arm, but without such "consentaneous general action," and it is thus at best only a questionable proof of protection.

I have during the past month been collecting information from the profession in reference to Bryce's Test, which I shall publish. The facts brought out only tend to convince me more fully that in the neglect of this *constitutional test* we are aggravating the distrust in vaccination which is so prevalent amongst a certain portion of the community, we are degrading the protective power of vaccine lymph, and we are sullyng one of the brightest and most important discoveries ; and curtailing one of the greatest blessings ever given by man to man.

I wish to show in a future communication why I consider the adoption of Bryce's Test to be advantageous in propagating pure and effective lymph.

## OBSERVATIONS ON THE HYGIENE OF VISION.

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### PART I.

THE majority of persons are rendered conscious of the possession of eyes only by the continual reception of clear images from the objects at which they look, whether these are near or remote. The minority, and that not an inconsiderable one, either enjoy clear vision only under certain limitations with regard to distance, or else exert their eyes only at cost of an effort which is always perceptible, soon irksome, and at last painful or fatiguing. Some persons can see clearly only for a few inches from their eyes; others only for a range extending from arm's length to the horizon; others, who are wholly free from disease, have not clear vision at any distance, and are often quite unconscious of their defect. In the meanwhile, in the estimation of the public, one eye is as good as another; and although it is manifest that the differences referred to would very greatly influence the fitness of individuals for this or that vocation in life, yet we scarcely ever hear of their being taken properly into account in the training of children, or in the choice of professions for young men. It is quite a common feature, in the history of a child with defective sight, that he has been repeatedly punished, both at school and at home, for errors that he could not help; and there are thousands of people in the world who, by the carrying of similar ignorance or thoughtlessness into their more mature years, are tied to occupations which are to them continual sources of discomfort, and, not unfrequently, sources of danger

also. Under such circumstances, the subject of the Hygiene of Vision seems to be one well worthy of the attention of the profession, and capable of being so studied as to conduce to the general welfare.

The eye, it is almost universally known, is an optical instrument of the same general character as a photographic camera, and, like it, acts by the formation of inverted images of external objects upon a screen. So much is unquestionable; and without the aid of optics, physiologists would be unable to comprehend the most elementary principles of vision. Partly, perhaps, on this account, physiologists for a long period neglected carefully to investigate the functions of the eye; and optical philosophers were suffered to build up a purely fanciful structure, composed of hypotheses at once ingenious and erroneous, with regard to the nature and uses of the several parts of the organ, and with regard to the degree of physical perfection which it had attained.

A chief point of difference between the eye and any artificial optical instrument, depends upon the greater extent of the field that the eye embraces. This field may be said to extend over 160 degrees from side to side, and over 120 degrees from above downwards; but whereas, in the artificial instrument, we demand clear definition to the margin of the field, in the eye we obtain such definition only at its centre, over a space which would contain, at the distance of a yard from the observer, about four letters of such type as that in which this page is printed. Within this space a normal eye should be able to distinguish two points separated by about a sixtieth part of the space itself, or by one minute of angular measurement; and around it vision becomes progressively more and more indistinct up to the limits of the field. The image received by the eye has thus been well compared to a drawing, of which the centre is exquisitely finished, while the marginal parts are merely sketched in outline. Of these we see, indeed, enough to call our attention to any noteworthy objects or phenomena; towards which, as soon as we are thus warned of their presence or occurrence, the direct gaze will be immediately turned, allowing the previous object of regard to pass out of sight, or to lapse into marginal indistinctness. The mobility of the eye completely neutralizes, so to

speak, the narrowness of the field of exact vision ; insomuch that the very fact of this narrowness is altogether unknown to the great majority of persons, and becomes to most a matter of surprise when demonstrated by observation and experiment. In technical language, the acute vision with which we see objects upon which the attention is fixed, is called *direct vision* ; and the imperfect vision which renders us conscious of the main outlines of lateral objects, is distinguished as *indirect*. The former is the function of the central part of the retina, the yellow spot of Soemmering ; and the latter of the whole of the lateral portions of the same nervous membrane.

The eye differs, also, from all the compound instruments of the optician, in the absence of any considerable provision for the correction of what are called in optics the "aberrations" produced by refracting media. These aberrations are of two principal kinds, the "chromatic" and the "spherical."

Chromatic aberration is a consequence of the compound character of the solar rays, which are made up of different kinds of light, all refracted in different degrees by any single substance, and therefore incapable of being united by it in any single focus. Because we are not sensible of colour fringes round the objects of our regard, it was long supposed that the eyes were achromatic, and that their achromatism was produced, as in compound lenses, by differences in the powers of refraction and dispersion of the successive media, the cornea, the aqueous humour, the crystalline lens, and the vitreous body. Recent research, however, has shown that the eyes are so far from being achromatic that, when accommodated for infinity in red light, they are only accommodated for a distance of two feet in violet light ; and this may be made manifest by looking at any distant lamp that is covered with cobalt blue glass. Such glass transmits the red and the violet, but absorbs the yellow and the green rays of the spectrum ; and persons with normal vision would see through it a red flame, surrounded by a wide halo of bluish violet. This phenomenon may be readily witnessed at any of the tunnel stations of the Metropolitan Railway, on which one lamp with a cobalt blue glass is carried by the engine of every Hammersmith train. The same engine carries also a lamp with colourless glass ; and hence the difference of effect is well shown by contrast. In

ordinary white light the difference in the dispersion of its different elements ceases to be recognizable.

Spherical aberration, in glass lenses, produces distortion of the image at the margin of the field. It depends upon the fact that divergent rays strike the surface of the lens at a different angle near the centre and at the margin, and are more sharply refracted at the latter; so that the focus of the marginal portion is nearer the lens than that of the central portion. If we look at any surface through a moderately strong magnifier, and gradually increase the distance between the two, we shall soon reach a point at which the marginal image is blurred, while that of the central portion is still distinct and clear. Opticians remedy this defect by the use of diaphragms, or "stops,"—opaque plates with central openings, so that the marginal part of the lens is covered. It was long believed that the iris, in the human eye, fulfilled an analogous function; but exact investigation has shown this supposition to be almost as baseless as that of achromatism. The fact is that the curvatures of the surfaces of the eye are exceedingly irregular, generally not spherical at all, but ellipsoidal, and different in different directions; and that even these ellipsoidal surfaces are not always concentric, the centre of the crystalline lens being often out of line with that of the cornea. The result is that there are few people who can see horizontal and vertical lines, at the same time and at the same distance from the eye, with the same degree of clearness; and that the optical picture formed by the refracting media upon the retina is distorted in a degree compared to which the defects due to spherical aberration would be altogether inappreciable. Besides this distortion there is another, traceable to the fibrillated structure of the crystalline lens, which causes us, when we regard any distant point of light, such as a star for example, to see it surrounded by an appearance of rays. These rays have, of course, no objective existence, and they differ in their arrangement in the eyes of each spectator. But a knowledge of their nature is so rare, even among men of considerable scientific culture, that so lately as on the occasion of the last total eclipse of the sun, many careful observers in different parts of the world were employed in making accurate drawings of the appearances of the corona, and afterwards in

wondering at the differences which these drawings presented ; not at all knowing that they were not pictures of an external object, but chiefly of the arrangement of the fibres of the crystalline lens in each individual who made them.

The media of the eye, again, are very far from being homogeneous or perfectly transparent. If we look through a very small opening upon an illuminated surface (the best method is to make a pin-hole in a thin sheet of metal, and to place it over the eye-piece of a microscope, with moderate mirror illumination of the objective), we shall see the field of view occupied by many stationary granules or spherical objects, by some stationary fibres, and by many floating fibres, which resemble beaded filaments. All these are the projections of shadows cast upon the retina ; the stationary by imperfectly transparent parts of the crystalline lens, the floating by imperfectly transparent fibrillæ in the vitreous. Moreover, the media present phenomena of fluorescence and interference that are very marked if we seek them properly. If we throw a fine pencil of light through the fully dilated pupil, we can distinctly follow its track into the depths of the eye by the reflection of its blue waves from the organic particles against which they break ; and if we light up either the cornea or the crystalline lens with blue rays only, we shall see a quinine-like reflex from these apparently colourless structures.

The retinal surface which receives the image has its full share of imperfections. Over the entrance of the optic nerve it is absolutely blind ; and this blind spot measures six degrees in the horizontal, and eight in the vertical direction. If we draw on a piece of paper a small dot or cross as an object, and three or four inches to the right of it a black circle half an inch in diameter, and look steadily at the dot while we move the paper to and fro, we shall find a distance at which the black circle altogether vanishes. The larger retinal vessels, also, form "blind lines," so to speak, radiating from the spot ; and a fine point of light can be made to vanish as it passes across or along them. Under certain conditions they cast shadows upon the percipient layer behind them, and in this way also they interfere with the perfection of the retinal image.

Lastly, the centre of vision, the yellow spot itself, by reason

of its own tint, occasions deceptive impressions with regard to colour, and also masks or overpowers very feeble luminous impressions. It is well known that some of the smaller stars are seen more readily when we look a little aside from them than when we look at them directly; and this is due to the coloration of the yellow spot, by which the object is disguised as if it were looked at through a piece of yellow glass. Professor Clerk Maxwell, in a recent lecture at the Royal Institution, pointed out that, in consequence of differences in the tint of the yellow spot, a colour which one person, on comparing it with white, would call pinkish, would be pronounced to be greenish by another. He also displayed a method by which the presence of the yellow colouring matter in the retina may be rendered manifest, a method for which he was indebted to Professor Stokes. It consists in looking at a white object through a solution of chloride of chromium, or at a white screen on which light which has passed through this solution is thrown. This light is a mixture of red light with the rays near the line F of the spectrum, which are strongly absorbed by the yellow spot. When it falls on the ordinary surface of the retina, it is of a neutral tint; but, when it falls on the yellow spot, only the red light reaches the percipient elements of the retina, and we see a red spot floating like a rosy cloud over the illuminated field.

The sensations of colour, beyond the region of the yellow spot, are very different in different parts of the visual field, and are less vivid, certain, and distinct in the marginal parts than near the centre. The extreme parts of the retina are naturally nearly insensible to red; so that the outline of a red object can be seen when it is held far to the right or left, long after its colour has ceased to be distinguishable. Again, in a feeble light, red objects become comparatively invisible; as all know who have tried to find red fruit in the twilight of a summer evening.

We arrive, in this way, at a somewhat formidable total of imperfections in the eye, when regarded as an optical instrument; and it becomes interesting to inquire how it is that they generally interfere so little with its efficiency as an organ of vision. The answer must be afforded, first by the very imperfect attention that is naturally paid to any indirect visual impressions, to any appearances that can only be seen if they are sought for in the



outer parts of the field, while the direct gaze is turned away from them; secondly, by the faculty of accommodation; thirdly, by the degree in which our conclusions about what we see are the results of an experience in which the eyes are aided by the reports of other senses; and, lastly, by the influence of habit.

The small attention that is generally paid to any of the indirect phenomena of vision can hardly be better illustrated than by the fact that it was reserved for Mariotte, in the reign of Charles II., to discover the existence of so considerable a lacuna as the blind spot. Before his time, men had used their eyes for thousands of years, and yet they had so constantly disregarded the lateral portions of the field that they never became conscious of this great defect in them. The two blind spots were one on either side of the object looked at, and were always, therefore, both out of sight and out of mind. It was only when Mariotte, wishing to test the share of the choroid in vision, designedly brought the image of an object upon the part in which the choroid is wanting, that he found out the insensitiveness of the optic nerve to light. Few people even now, are aware that they cannot distinguish red with the marginal part of the retina. When they want to distinguish red, they instinctively look at it; and then it becomes no longer marginal. Many of the phenomena of aberration are also chiefly marginal; and are thus so utterly disregarded that their very existence remains unknown.

The function of accommodation is that by which the yellow spot receives sharply-defined images of objects at whatever distance; by which, in other words, the eye is adjusted to see clearly either from afar or at hand. The rays of light from distant objects may be regarded as parallel; and a normal eye, when in a state of absolute repose, unites them into a clear picture upon the retina. The rays from near objects are no longer parallel, but divergent; and the same adjustment would no longer unite them. But to the eye the craving for clear images is an irrepressible instinct; and as any object approaches, or as the regard is turned from a distant object to a near one, the refractive power is at the same time increased by the effort of an internal muscle, and the clear image is still obtained. Now this power of internal variation comes into play to prevent the formation of dim images as a

result of spherical aberration or of asphericity. The eye adjusts itself instantly for the aspect that is looked at, as well as for the given distance; and in the case of a person, for example, whose vision for horizontal and for vertical lines is different, the vertical and the horizontal boundaries of a square will not be looked at together, as by a normal eye, but in immediate and alternating succession. In this way the possessor of the eye may remain in ignorance of his defect; or may be guided to a knowledge of it only by the fatigue that his rapid and incessant accommodation efforts will in time occasion.

The influence of the other senses in controlling the impressions received through the eyes is very real, but is chiefly exerted at an early period of life, when it may easily escape observation. A child, for example, whose eye surfaces, like flaws in a window-pane, distort all things that they look upon, may very well remain unconscious of his peculiarity. He is told that certain figures are circles, or squares, or ovals; and he recognizes their identity, although he may never see their true outlines. There comes, therefore, a general consent about the names of appearances, which may possibly cover a certain amount of difference in the appearances themselves.

The effect of habit is shown in our ordinary unconsciousness of all those impressions upon the nervous system which are being made perpetually. Thus, although the arborescent vessels of the retina stand always between our gaze and outward objects, we remain ignorant of their existence unless they are brought into prominence by some unusual method of illumination. In the same way there are certain permanent defects of vision which people learn to disregard, and by which, as a matter of fact, they are neither inconvenienced nor deceived.

We must, therefore, lay aside, as a pleasant figment, the belief long taught and entertained that the eye in any way approaches perfection as an optical instrument. Even in its normal construction it is full of faults, any one of which would condemn a telescope or a microscope to be thrown aside as useless; but which, in the living organ, are rendered comparatively unimportant by the conditions under which it is exercised, as well as by a variety of physiological compensations. When we step beyond the limits of the strictly normal eye, we soon find ourselves

in the presence of defects of structure, of shape, of sensibility, or of directing power, which the utmost extent of our physiological compensations fails to correct, and which produce either habitual discomfort or habitual error. The error may perhaps be regarded as unimportant; and indeed has served, in more than one instance, as the basis of an enviable reputation. More than one landscape painter, about whose marvellous effects of distance and haze art critics have raved, has simply been reproducing the work-a-day world as it constantly appeared to his own defective vision; and would scarcely, perhaps, have submitted to the correction of a fault so fruitful both of money and renown. But, wherever there is discomfort, there is the root of possible or probable disease; and, as a rule, the many people who always feel that they have eyes are walking, more or less unconsciously, on the brink of a precipice over which they may at any time fall. It is to the protection and relief of eyes in which some slight exaggeration of an ordinary defect overpowers the resources of physiological compensation, and thus, by exciting nervous irritation, muscular pain, or vascular plethora, lays the foundation of morbid processes, that the remaining papers of this series will be addressed. An imperfect organ, if its powers are developed and utilized, and its weaknesses as much as possible strengthened and corrected, will usually last out the lifetime of its possessor; while, if injudiciously or improperly exerted, it becomes exposed to dangers from which it can hardly be expected altogether to escape.

*(To be continued.)*

## Reviews.

*A Manual of Midwifery.* By ALFRED MEADOWS, M.D. Lond., M.R.C.P., Physician to the Hospital for Women, &c. &c. Second Edition. London: Renshaw.

THIS new edition of a book which was at once recognised as a good manual of its subject, is a considerable improvement on its predecessor. It is eminently a book which will teach the student, and at the same time it rises above the level of such manuals as are mere compilations for "grinding" purposes. The most important addition, perhaps, is that of a large number of woodcuts, partly original and partly copied from existing text-books, but in all cases well adapted to make clear the points which they illustrate. An entirely new chapter on Cephalotripsy has also been added, and the chapters on different forms of unnatural and complex labour have been enriched with a good deal of new material.

We must say that, in looking back to our own student-days, we feel a good deal of indignation in remembering how entirely the student was at that time left without the kind of help to a general view of "Midwifery" which this book affords. Not merely is the practical treatment of labour and also of the diseases and accidents of pregnancy well and clearly taught, but the anatomical machinery of parturition is more effectively explained than in any other treatise that we remember. And besides this, the book is honourably distinguished among manuals of midwifery by the fulness with which it goes into the subject of the structure and development of the ovum. This last is a matter which, in our day, the lazy student used to shirk altogether: and as manuals used to be written for the lazy student, their authors took little pains to give a clear insight into the subject. But those students who had a little more ambition, and a little more scientific imagination, used to complain of the inadequate way in which this all-important matter (which is also among the most fascinating subjects in all Biology) was treated. It was cold comfort to be told to go and dig the special subject up in the "Carpenter" of those days. Dr. Meadows has done good service in giving a clear

account of this subject, in a very short space, yet with sufficient fulness.

Finally, let it be said that on all questions of treatment, whether by medicines, by hygienic regimen, or by mechanical or operative appliances, this treatise is as satisfactory as a work of manual size could be; and altogether students and practitioners can hardly do better than to adopt it as their *vade mecum*.

*Handy-book of the Treatment of Women's and Children's Diseases, according to the Vienna Medical School; with Prescriptions.* By DR. EMIL DILLNBERGER. Translated by PATRICK NICOL, M.B. London: Churchill, 1871.

OUR readers may remember that we noticed favourably the original of this handbook some months ago, and that we suggested that an English translation of it, with additional notes, showing the main points wherein the practice of British medical schools differs from that in vogue at Vienna, might be well received. Whether from our suggestion or not, Mr. Nicol has now carried out this "happy thought" with considerable success, and we should imagine that a considerable number of English practitioners will be glad to possess this little manual, which gives a large mass of practical hints respecting the treatment of diseases which probably make up the larger half of every-day practice. No doubt the references to English points of practice might have been made considerably more full, with real advantage; but, on the other hand, it was probably felt to be important to keep the book as nearly as possible to the handy and convenient size of its German original. We may add, that the translation is well and correctly performed, and that the necessary explanations of all references to German medicinal preparations are always given with proper fulness.

*The Surgery of the Rectum: being the Lettsomian Lectures on Surgery delivered before the Medical Society of London, 1865.* By HENRY SMITH, F.R.C.S., &c. &c. Third Edition. London: Churchill, 1871.

As we have not had the opportunity of noticing previous editions of this useful little work, we willingly chronicle the appearance of a third edition; but it is unnecessary for us to say much about it. Mr. Smith is well known as a first-rate authority in all matters connected with rectal surgery, and the previous editions of this treatise have been received with much favour by the profession. The point which will probably be regarded as the most practically interesting in the new volume

is Mr. Smith's increased experience of the value of the clamp and cautery in internal hæmorrhoids and prolapsus of the rectum. He has operated in this manner between 200 and 300 times, and has seen the most striking benefit in a very large number of cases. Unlike the ligature operation, this process is, he believes, absolutely safe; although death has followed it in two cases, he denies that the result was dependent on the operation. We fancy that the opinion of surgeons is becoming decidedly favourable to the superior safety and convenience of this process, and it seems to be applicable in a larger variety of cases, including very severe and formidable affections, than could at first have been supposed. There is no doubt that the form of clamp invented by Mr. Smith is an exceedingly useful and effective instrument.

*Notes and Recollections of an Ambulance Surgeon: being an Account of Work done under the Red Cross during the Campaign of 1870.* By WILLIAM MACCORMAC, F.R.C.S., M.A., M.R.I.A. Assistant Surgeon to St. Thomas's Hospital, &c. &c.

THIS volume is an expanded reprint of some papers published in the pages of the *British Medical Journal*, and contains an interesting account of such an experience in military surgery as has fallen to the lot of very few men ever to encounter. Sedan, Bazeilles, Balan—these three places, perhaps, more than others, except Metz, which were visited by the storm of the great Franco-German war, have left interesting and terrible impressions on the minds of medical readers of the newspapers during the eventful autumn of 1870. Mr. MacCormac was in the very heat of all the turmoil and conflict that raged about these places, being at first second, and then chief in command of the Anglo-American Ambulance, which did such excellent service to the wounded in their sorest need. We are not among the number of those who deny the value of such records as are here given, imperfect though they must necessarily be from the distracting circumstances of hurry and overwork under which the notes from which they have to be compiled are taken. It is not merely that they contain a very important, though too small, element of novel facts in military surgery, facts which are of a value much out of proportion to their mere numbers. The chief utility of such a book as Mr. MacCormac's seems to us to be that it brings before the student of military surgery, in a more vivid and striking manner than any formal treatise could do, the real character of the work which he will have to undertake if ever he should be suddenly thrown into the neighbourhood of really severe fighting. It is most useful, we should think, for such students to read over the story of that

fearful 2nd of September at Sedan; it would certainly open their eyes to the paramount necessity of regarding operative surgery from a very different point of view from that in which they see on the peaceful "field days" of a great metropolitan or provincial hospital.

We wish, indeed, that there were more of these records of the special work done in military surgery during August and September 1870. Why does not Dr. Frank give us the results of his most interesting and curious experience at Balan and Bazeilles? And when are we to hear from Professor Binz and the other army doctors who were in front of Metz, the complete details of surgical fever, and of typhus and typhoid? The latter gentleman has already published in the *Lancet* a brief paper on the results of the quinine treatment of these diseases, and we are impatient to hear the final results of his experience.

There is one melancholy reflection, however, which adds to the repugnance with which every humane person must read of the sad miseries of war. It might be some comfort if we could think that the varied and curious surgical and medical phenomena presented in the course of a severe campaign could all be chronicled with satisfactory exactness, and in such a perfect form as would admit of their being utilised fully for the deduction of permanent principles of treatment. How small is the degree in which such objects can be realised is painfully illustrated by such books as Mr. MacCormac's; but indeed our only wonder is, not that the information which we finally gain from these records is incomplete, but that the harassing duties of the ambulance should have left its officers any time to make records at all. The members of this Anglo-American Ambulance Staff seem to have worked with tremendous energy, and we hope that at some future date Mr. MacCormac or one of his colleagues may be enabled to give us a detailed and systematic view of the whole results of their remarkable experience in the field. Meantime, as we have already said, the present volume has a distinct value for the student of military surgery, in showing him a picture of the way in which surgical events actually pass in war, which it would be difficult to obtain elsewhere.

## Clinic of the Month.

**Treatment of Orchitis.**—In a clinical lecture on this subject, Mr. Jonathan Hutchinson remarks that in that form of orchitis in which the epididymis, body of the testis itself, the tunica vaginalis, and the cellular tissue of the scrotum, are all involved, gonorrhœa is the most common cause. In these cases the effusion is usually serum only, and a speedy and complete cure by absorption may be expected; but in exceptional instances suppuration may occur in the cavity of the tunica vaginalis, and, in others still more exceptional, in the body of the testis itself. Gonorrhœal orchitis almost always subsides spontaneously, and without any permanent damage to the gland. All that is necessary is to keep the patient in bed, to purge him freely, and apply ice to the part. Now and then, however, the severity of the inflammation may be such as to threaten abscess, or even to cause gangrene. When the pain is intense and persists, in spite of the use of ice, Mr. Hutchinson believes that the practice of making incisions is not only safe but very valuable. Some surgeons, he observes, are in the habit, even in ordinary cases of gonorrhœal orchitis, of seeking to relieve tension by making one or more punctures into the tunica vaginalis, or even into the testis itself. He believes that it may be accepted as the result of their experience that such punctures seldom do any harm; to most surgeons, however, they scarcely appear to be necessary. In recommending incisions, Mr. Hutchinson states he is speaking rather of the exceptional states in which abscess is threatened; and, in looking back upon his own experience, he is certainly inclined to regret that in several cases he did not make incisions earlier. A free incision into the tunica vaginalis leads to no ill consequence whatever, and if it happens that pus is let out the relief is immense. A free incision through the tunica albuginea into the testis itself does not lead to gangrene of the testis, nor always even to fungous protrusion. When the testis is swollen, it appears to relieve pain much with the same certainty that iridectomy does the pain of acute glaucoma, and Mr. Hutchinson's impression is that it is likely in critical cases to diminish the danger of gangrene on the one hand, and of consecutive atrophy on the other. (*Med. Times and Gazette*, April 22, 1871.)



**Relief of Pain and Muscular Debility by Acupuncture.—**

Mr. Pridgin Teale records a series of cases in which relief of pain was obtained by acupuncture, a method of treatment which, though boasting of great antiquity and capable at times of doing good service, seems to have dropped in great measure out of use, or at any rate to be at the present time but little employed or even known in many parts of the kingdom. It has, however, been for years a favourite traditional practice at the Leeds Infirmary. Mr. Teale observes that he does not claim for it that it succeeds in one-half or even one-third of the cases in which it is used, nor can he offer more than a conjectural explanation of its mode of action, and a general idea of the cases in which it is likely to succeed. When it does succeed, the relief it gives is almost instantaneous, generally permanent, and it often proves most effectual in cases which for weeks or months have run the gauntlet of other treatment without benefit. The following is one of the cases recorded. A patient of Mr. Teale, aged about 23, was pitched off horseback, and fell on his shoulder. At the end of a fortnight he was disappointed to find that his shoulder was still disabled and stiff, and painful at one spot near the joint. A needle was then introduced at the painful spot down to the bone. On its withdrawal Mr. Teale told him to use his arm, and, to his surprise, he found that he had regained the perfect use of his shoulder, and that all pain had ceased. No further treatment was required. Another case was one of coccygeal neuralgia, following a difficult labour. A needle was plunged into the tissues on either side of the coccyx, and allowed to remain in for about a minute. For three or four hours she suffered pain from the puncture, and then all pain ceased. Another case was one of muscular debility from sprain. In regard to the cases most suitable for the application of this method of treatment, Mr. Teale acknowledges that he now treads on very uncertain ground, but he thinks they may be divided into two groups: (1) cases of muscular debility, and (2) cases where pain is present. Amongst the former may be enumerated cases where there has been a bruise of muscle (or nerve), as in a fall on the deltoid, or stretching or tearing of muscle or tendon, as in dislocation of the shoulder followed by rest, *i.e.* disuse of the muscles for two, three, or four weeks, and in which, at the period of resuming work, the muscles are powerless. After four weeks it is probable that the longer the delay the less chance there is of acupuncture doing good. In regard to the cases where it is adopted for the relief of pain, his rule is a somewhat artificial one. Whenever a fixed pain has existed for some time, and has resisted ordinary means of relief, general and local, he acupunctures. Speaking roughly, out of ten cases there is a brilliant result in one, improvement in three or four more, and failure in the

remainder. The cases in which success most frequently results, are those in which there has been an injury or sub-acute inflammation of fibrous tissue, such as tendon or ligament, as occurs in sprains and some erratic forms of rheumatism. The mode of action of acupuncture in cases of muscular debility, he believes, is by a stimulus which supplies the place of defective power of will, by producing a temporary congestion and corresponding increase in the calibre of the vessels, and in the blood-supply; and this view he thinks is supported first by the fact that on puncturing the skin we often find in the course of a minute or so an area of redness—i.e. of vascular excitement—of about an inch or more in radius, and secondly, by the circumstance that the recovery of muscular power is *gradual*, not sudden, beginning immediately after the puncture, and increasing for twenty or thirty minutes. He thinks the pain is relieved by the acupuncture producing a temporary active congestion, a flushing of the vasa nervorum, which serves as a starting-point for improved nutrition of the nerve previously impaired by the injury or inflammation. (*Lancet*, April 29, 1871.)

**Value of Cold in Fever.**—In his "Lectures on the Heat of the Body," Dr. Gee observes that any concession made to the doctrine that much of the danger in a given case of fever is due to the pyrexia, involves the obvious therapeutical indication, to lessen the heat of the body. How is this to be done? By cold applied externally, so as to abstract the heat directly? But the elevation of the internal temperature that is consequent upon the application of moderate cold to the surface, does not look promising for such a method of treating pyrexia. It becomes, then, very important to ascertain by direct experiment, whether in pyrexia there is a similar reaction against abstraction of heat; whether a moderately-increased loss of heat from the skin induces not a depression, but an elevation of the temperature of the internal parts. Experiment proves that there is such a reaction and elevation of temperature in pyretic patients. This elevation of temperature appears to be due in healthy persons to an increased production of heat, and the observations of Liebermeister seem to prove that the same holds good of fever patients. So far, then, experiment is against the use of external cold, as a means of diminishing pyrexia. And yet, on the other hand, we have the testimony of three-quarters of a century to the good effects of cold applied externally in fevers. The practice of Wright and Currie has been confirmed and extended in our own day, by the experiments of Brand, Liebermeister, and others. How is this beneficial effect on fever to be explained; or rather, in what manner can the augmented generation of heat in pyrexia

be diminished in cold baths? Two explanations offer themselves—probably, both are valid at the same time. First, the fall of temperature, which follows after moderate abstraction of heat in a healthy person, occurs in fever patients also. The temperature rises at first during the bath; but a lowering of the body-heat soon follows, and the depression of temperature lasts longer than the elevation; yet, in severe pyrexia, the depression soon passes off, so that the baths must be frequently repeated in order to produce a decided cooling effect. Secondly, the temperature rises during the bath for a time, certainly; but fever patients lose more heat during this period than healthy persons. Moreover, the power to counteract cooling, by spontaneous augmentation of heat generated—a power which is limited in health—in fever is still more limited; that is to say, under great abstraction of heat, less heat is produced in fever than in health. Hence, not only is the frigorific action of the bath greater, but its calorific action is less in fever patients than in healthy people; more heat can be abstracted from the pyretic, and their power of maintaining a standard temperature is more easily overcome. To sum up: the cold water treatment does not shorten the duration of a specific fever, but only lessens the severity of its most important symptom, the pyrexia; and, at the same time, the disposition to lethargy, frenzy, putridity, and debility is lessened, whereby support is given to the doctrine that these typhoid symptoms are partly, at least, due to the height and length of the pyrexia, and not altogether to the specific character of the fever. (*British Medical Journal*, April 15.)

**Treatment of Enteric Fever.**—In a paper read before the Medico-Chirurgical Society of Edinburgh, Dr. T. J. MacLagan gives the result of his investigations into the nature of the intestinal lesion occurring in enteric fever. He considers this to be a specific inflammation of the agminated and solitary glands, complicating and intensifying, but in no way shortening, the general constitutional affection, and bearing to enteric fever much the same relation that inflammation of the tonsils does to scarlatina. In regard to treatment he observes that in very mild cases, where we may hope for resolution, it is of the utmost importance to avoid everything in the least degree calculated to increase the general excitement and every possible source of intestinal irritation. For this reason the diet should consist of milk, with such farinaceous articles as arrowroot, sago, corn-flour, &c., and even these should not be given too freely. No other solids should be allowed. All animal food is to be eschewed. The patient must be kept quietly in bed, and should, to ensure compliance with the instructions given to him, be warned of the risk of any departure from them. Should there

be any tendency to diarrhoea, all solids should be omitted and nothing but milk be given. Even beef-tea should be prohibited. The addition of lime-water to the milk (nearly equal parts of each) is not ungrateful to the patient, and is of use in consequence of its slight astringent properties. Of this he may drink freely. If the looseness continues, the administration of frequently repeated small doses of Dover's powder with an additional equivalent of ipecacuanha has a most salutary effect; from  $1\frac{1}{2}$  to 3 grains of Dover's powder, with  $\frac{1}{8}$ th of a grain of ipecacuanha, may be given every two or three hours. It is seldom, however, that diarrhoea occurs. More commonly we have to deal with the opposite condition; and here the greatest nicety is required. It must be borne in mind that some of the glands of the small intestines, and perhaps also of the large, are inflamed, and consequently more than usually prominent and tender. Under these circumstances the contact with them of the insoluble indigestible matter of which the fæces are composed is to be avoided as much as possible. The less fluid the fæces are, the more likely are they to irritate the tender glands and diminish the chance of terminating in resolution. It is necessary, therefore, when the bowels are constipated, to counteract that condition by the administration of laxatives. For this purpose nothing is so suitable as castor-oil; one or, if necessary, two drachms should be given, so as to secure a stool, if possible, every day. The rule that Dr. MacLagan adopts in these cases is to give to an adult one drachm of castor-oil on the evening of every day on which the bowels have not been moved; if by the morning there is no stool, the dose is repeated. Occasionally it is necessary to give double that dose. Ipecacuanha in frequently repeated small doses ( $\frac{1}{4}$  to  $\frac{1}{2}$  of a grain, with a little sugar or aromatic powder, every two hours) is often beneficial, not only by its action on the skin, but by acting also on the mucous membrane. If there is much heat of skin, it may advantageously be given in the form of wine, along with *Mindererus' spirit*. Dr. MacLagan considers those cases to be most favourable in which there are two motions in twenty-four hours. When there are three, he does not interfere, unless they are very copious and watery. But when they go beyond that it is too much for the patient, and it is well to check them by means of astringents, and for this purpose he has recourse to acetate of lead, dilute sulphuric acid, or solution of pernitrate of iron. The two last are his favourites, the iron being called into requisition when the acid fails in having the desired effect. The combination of a small dose of tincture of opium or solution of morphia with the acid is often beneficial. (*Edinburgh Medical Journal*, April 1871.)

**Treatment of Abscess of the Breast.**—Mr. Christopher Heath, in a lecture on this subject, observes that the diagnosis of an abscess deep in the substance of a breast is by no means easy in all cases; and the so-called *tactus eruditus* of the surgeon has no better opportunity for its display than in its detection. The period during which the disease has lasted, and the œdematous condition of the integuments, will justify an incision even when fluctuation may be doubtful; and fortunately a mistake is of little consequence, since the relief of tension, by the slight hæmorrhage and drawing away of serum consequent upon the incision, will be as great as if matter had been evacuated. The knife Mr. Heath prefers for opening tolerably superficial abscesses is the ordinary double-edged Syme's abscess-knife, which by its sickle shape allows a sufficient opening to be rapidly made, but when the matter is very deep (and it is sometimes missed from not going deep enough) he uses a slender straight bistoury or finger-knife. Of course the incision should be made in as dependent a position as possible, and always in a direction radiating from the nipple, so as to avoid injuring the lactiferous ducts. There can be no better treatment than poulticing for a few days after matter has formed in the breast; but over-poulticing, *i.e.* prolonged for weeks, is strongly to be condemned, since the discharge is thereby kept up, and both the vitality of the part and the strength of the patient are weakened. Cases of abscess of the breast which have been treated domestically from the first not unfrequently come before the surgeon with half-a-dozen openings from which flabby granulations protrude, pouring out a considerable quantity of their unhealthy pus under the influence of prolonged poulticing. Here the proper treatment is to take off the poultice at once; to support the breast efficiently by strapping or bandaging; to inject the sinuses with some simple stimulating lotion, such as the red lotion (sulphate of zinc one grain, compound tincture of lavender one fluid drachm, spirit of rosemary half a fluid drachm, water one fluid ounce); and to dress each of the openings with water dressing and the above lotion; or, if the parts prove sluggish, with a lotion of nitrate of silver, two grains to the fluid ounce. It is seldom necessary to lay open sinuses extensively in the breast, though when there are two small and insufficient openings to a sinus, time may be saved by laying them into one under chloroform. At the same time attention must be paid to the general health of the patient; hectic symptoms, if present, being checked by sponging the whole body with hot vinegar and water at night; by the administration of the mineral acids in full doses with vegetable tonics, and subsequently, the health being restored by the administration of iron, cod-liver oil, and resort to the seaside. (*Lancet*, May 6, 1871.)

**Advantages of Methylene as an Anæsthetic.**—Dr. Rendle, of Guy's Hospital, writes to the *Lancet* in favour of the use of methylene. He considers its advantages to be that, when properly administered, it is only exceptionally followed by nausea or sickness, both of which have followed the use of nitrous oxide gas. Its portability as compared with the latter is also an advantage. He states he has given it for operations lasting one hour, when the operator was able to commence in three minutes, and recovery was rapid and not followed by sickness; also for operations lasting less than a minute, when all was finished and the patient sitting up within five minutes without the slightest unpleasant sensation. (*Lancet*, May 6.)

**Neuralgia treated by the Constant Current.**—Dr. Buzzard and Dr. Anstie reported cases to the Clinical Society in which this mode of treatment proved very effective. In Dr. Buzzard's case, a woman, aged 65, had suffered for three months from paroxysms of agonizing pain in the neck and right arm, which attacked her several times every hour night and day, deprived her of rest, and rendered her arm useless. The neuralgia had followed seizures which sufficiently indicated its central origin, and this, coupled with the age of the patient and the degeneration of the tissues, rendered its cure in the highest degree improbable. Applications of a sedative character had been useless in relieving her suffering. A constant current derived from ten cells (increased afterwards to fifteen cells) of a Weiss' battery was applied from time to time, between the cervical vertebræ and the hand, with the effect of producing remarkable relief to her pain, insomuch that at one time she thought herself cured. Under the influence of this treatment the patient was enabled to sew, and to cut her food with the right hand, which had previously been so helpless that she was forced to lift it with the other. With the view of testing the effects of the application it had been intermitted on several occasions, and other remedies, as blisters, sedatives, and tonics, had been employed, but these failed in preventing the paroxysms of pain. Summing up the results of treatment, Dr. Buzzard said that out of sixteen applications of the constant current, ten had been followed by very great and well-marked relief, two by moderate relief, and four by very slight relief. Dr. Buzzard brought the case forward, not as one of cure of neuralgia, but as a good example of the effects of the constant current in relieving pain; and he drew attention to the process because he believed it was as yet very little employed for this purpose in this country, although, as was well known, its efficacy had been perfectly recognised and insisted upon abroad for many years past. Dr. Anstie referred at the same meeting to two cases—one of severe neuralgia in the right cervico-

brachialis in a married woman, aged 48 ; the other of double cervico-occipital neuralgia in an unmarried needlewoman, aged 30. In the former case a cure was effected ; in the latter, not. The constant current was employed, with a strength of ten cells, afterwards increased to fifteen ; the positive pole in the first case being applied alternately on the various foci of pain, the negative pole being applied by the right side of the three lower cervical vertebræ. The pain was at once diminished, and ceased altogether at the end of thirteen days ; and a secondary anæsthesia of the skin, with secondary paralysis of the deltoid and trapezius, were removed at the end of the twenty-four days' treatment. The cure was found persistent six weeks later. Dr. Anstie remarked that the effect of the constant current in neuralgia was very remarkable, but that there were as yet some unexplained anomalies in its action. In the large majority of cases it acted as a palliative most strikingly. In a not inconsiderable number of cases it appeared to cure the disease absolutely ; in a few examples it failed to produce any good effects. As a general rule it was far less effective in the neuralgias of old persons with degenerated tissues than in younger subjects ; but occasionally even a young person, like the second of his cases, fails to derive benefit from it. (*Lancet*, May 20, 1871.)

## Extracts from British and Foreign Journals.

**Treatment of the Capillary Bronchitis in Children by Warm Vapour.**—Professor Abelin, of Stockholm, observes that capillary bronchitis, with its usual sequelæ, collapse, broncho-pneumonia, and emphysema, belongs to the most dangerous diseases of childhood. It most frequently originates in a simple bronchitis which extends from the larger into the smaller bronchia. It is sometimes, however, a primary affection, and attacks with extreme violence children that are apparently in rude health. When primary it is characterised not only by the intensity, but by the rapidity of its progress. The symptoms resemble more the direct action of a poison than a catarrhal inflammatory affection. From the date of occurrence of the first symptoms the patient passes into a state of collapse, the temperature sinks, dyspnœa and cyanosis augment, and ultimately complete anæsthesia supervenes. The course is usually so rapid that the little patient often succumbs in the course of twenty-four hours, and not seldom in from twelve to twenty-four hours. The usual accompaniments of capillary bronchitis, broncho-pneumonia and emphysema, do not appear in such cases to have sufficient time to develop, or at least they are undiscoverable in the dead body. Death, as in croup, results from the rapid progress of asphyxia. After death only a quantity of secretion is found accumulated in the bronchia, together with much epithelial *débris*, and more or less congestion of the posterior lobes of the lungs. In capillary bronchitis, and especially in the paralytic form, every kind of debilitating treatment should be avoided. Abelin, in the earlier period of his practice, adopted antiphlogistic treatment, and rarely saw a child recover. Subsequently he prescribed tonics and stimulants (quinine, musk, camphor, turpentine) with better results; but all these remedies were far surpassed in value by the mode of treatment long employed in his hospital, by the respiration of warm vapour, or rather of placing the patient in a hot-air bath. The children were placed in a properly constructed small chamber, in which was a vessel of water that was kept boiling day and night. Here the patient was retained for days and even for weeks, until complete recovery, which, however, usually soon took place: The



result of comparison with other modes of treatment was most satisfactory. The percentage of death, which in 1864 amounted to 48, diminished in 1868 to 18. M. Abelin has also found great benefit from breathing the vapour of hot water in pneumonia. Lobular pneumonia may likewise be thus treated, and here, in addition, turpentine embrocations and cataplasms are to be applied. In lobular pneumonia M. Abelin first gives calomel, or, if diarrhoea be present, small doses of calomel with opium or morphia, inf. ipecacuanha, with vin. liquiritiæ, thebaicum, and syrup. scillæ, and as soon as the symptoms give way a turpentine emulsion internally and flying blisters externally. (*Journ. für Kinderkrankheiten*, 1870, vii. viii.)

**Quinine as an Ecbolic.**—In a recent memoir by Dr. Monteverdi, of Cremona, it is stated that quinine and its preparations enjoy the power of promptly exciting energetic uterine contractions in pregnancy, and that they are consequently indicated in cases of inertia of the uterus, during and after delivery, and in menorrhagia. The author was led to suspect that this substance possesses some special action, by noticing the aversion with which it is regarded by pregnant women in the district of Cremona. He soon convinced himself, by the observation of a series of facts, that quinine really induced the accouchement of pregnant women; and he succeeded in various instances in accelerating delivery and the expulsion of the placenta. In the opinion of Dr. Monteverdi, quinine has an action surpassing in its rapidity and certainty even ergot of rye, whilst its use is not accompanied by the inconveniences that are characteristic of this drug. The period that elapses between its administration and the production of its effects varies from half an hour to two hours. The average dose he has employed is about five grains, repeated every half-hour or more, according to circumstances, till the patient has taken fifteen grains. The addition of a small proportion of opium appears to deprive quinine of this action. When, therefore, it is desired to administer quinine to pregnant women, a small proportion of opium may advantageously be added to it, and no danger need then be feared that contractions of the uterus will be excited. (*Journal de Médecine*, Mars 1871.)

**The Various Preparations of Aconite.**—From the researches of Professor Schroff, in Berlin, it appears that in the aconite root two substances are present, of which one has a well-marked narcotic influence, whilst the second is an acrid matter. He has further demonstrated that these two materials are present in very different proportions in the genus *Aconitum*, so that whilst in our *Aconitum napellus* both substances occur together, in other species only one is present. Thus, *Aconitum ferox* only contains the acrid substance; whilst in *Aconitum*

anthera, and still more in *Aconitum lycoctonum*, the narcotic principle alone occurs. The action of *Aconitum ferox* root was found to agree with that of "pure aconitina," purchased at Mr. Morson's, in London, in 1856, from which plant it is stated Mr. Morson's aconitina is derived. The ordinary aconitina employed in Germany, and made by Hübschmann, differs considerably in its action from that of Mr. Morson, both in its intensity, being so far inferior as not to admit of being termed a frightful poison, as well as in the nature of its effects, which, according to Schroff senior and Achscharumow, are essentially narcotic. There are thus strongly defined differences between English and German aconitina. It has been suggested that the former should be called *Nepalin*, from Nepal, E.I., the home of the *Aconitum ferox*, "*Acraconiten*," and "*Pseudaconitin*." More recently, Hübschmann has found two new alkaloids in the yellow-flowered *Aconitum lycoctonum*—"Acolyctin," which appears to be identical with the napellin obtained by Hübschmann from *Napellus*, and "*Lycoctonin*." Dr. A. Flückiger has very recently made a comparative research upon all these alkaloids, and has arrived at the following conclusions:—1. Aconitina is found in the root of the European blue-flowering aconite, especially in *Aconitum napellus*. 2. Also in similar kinds from the Himalaya, which in part receive the name of "*Bikh*." Amongst these, *Aconitum napellus* occurs. 3. According to Hübschmann, aconitina is absent in the yellow-flowering *Aconitum lycoctonum*. 4. Amongst the peculiarities of aconitina, discussed at length by Flückiger, is the fact that as far as possible vaporized hot phosphoric acid communicates a violet colour to it; and he also observes that the watery solution of aconitina tastes bitter, and not acrid. 5. Flückiger finds no essential chemical difference between English and German aconitina, but he thinks there is a basic substance also in English aconitina, which he terms *Pseudaconitina*, that has a burning and not a bitter taste, and does not exhibit the peculiar reaction with phosphorus. Napellin he considers to be an alkaloid differing from aconitina and *pseudaconitina*, whilst *lycoctonin* is distinct again from all. (*Archiv der Pharmacie*, Band xcvi. Heft iii.)

**On the Subcutaneous Injection of Morphia in Mental Diseases.**—Dr. O. J. B. Wolff, in a paper contributed to the *Archiv für Psychiatrie*, has endeavoured to lay down precise indications for the subcutaneous injection of morphia in mental diseases, based on the view that this remedy exerts an extraordinary influence on the vaso-motor nerves, which may be estimated by careful examination of the pulse with the sphygmograph. In order to obtain the greatest possible effect from the injection, he makes it near the vaso-motor centre, selecting the

anterior and lateral portions of the neck, this part possessing the additional advantage of the connective tissue being very loose, whilst it is in immediate proximity to the sympathetic trunk. He has ascertained by actual experiment that the influence upon the cerebral centre, *i.e.* upon the mental faculties, is not only rendered most marked by this means, but any peripheric disorder, as neuralgic pain, is removed; whilst if the injection be made at a distance from the brain, though the pain may be abolished, the psychical soothing effects and the removal of cerebral symptoms are much less perfectly accomplished. The immediate effect of the injection is that of an irritant: the vessels contract, the skin becomes pale and cold, the pupils contract, a feeling of malaise and sometimes vomiting supervene, and occasionally bleedings and very transient ptyalism. The vascular contraction may readily be demonstrated by means of the sphygmograph, and must be still more marked in the smaller vessels, on account of the larger amount of nervous and muscular tissue they contain. Pain is thus abolished just in the same way as it is by cold, electricity, and pressure. If the dose of morphia be small, this is the only effect produced; and if the vaso-motor nerves are already in a state of excitation, no perceptible effect even may be perceived. When larger doses have been injected, super- or over-excitation is produced, and paralysis of the vaso-motor nerves results, and as a consequence the pulse, previously very frequent, is rendered much slower. This state of paralysis of the vessels must be attained if the desired effects are to be produced in cases of mental disease with excitation; if too little be administered, the patient is only rendered more excited. The state of paralysis is accompanied by such phenomena of the brain and spinal cord as dulness, fainting, numbness, inactivity of the senses, and abrogation of common sensation by which the conditions favourable to sleep are established. The vessels being at the same time contracted, and retardation of the current of blood through the brain being produced, this contraction, which is only transient in the case of the larger vessels, is much more persistent in the case of the smaller ones. Coincidentally indications of paralysis of the spinal cord occur. The limbs refuse to support the patient; the frequency of respiration and the temperature diminish. Dr. Wolff then refers to the occasional ill effects of injections of morphia: one immediate, not dependent upon the quantity injected, and probably due to a nerve having been penetrated; and another occurring an hour or two after the injection, the frequency of the pulse augmenting, the temperature becoming higher, and the toxic influence of the drug produced. In such cases the patient becomes cyanotic, falls into a deep sleep from which he wakes no more, but breathes for a time, slowly and convulsively; has the head drawn backwards, the

mouth and eyes half open, the skin cold; exhibits no reflex actions, and has a slower, jerking pulse. In both conditions the chief danger is the arrest of the respiratory process, the blood ceasing to flow through the capillaries, so that none follows an incision through the skin, and the brain and spinal cord becoming paralysed. The proper treatment under such dangerous circumstances consists in bleeding from the vena jugularis externa, and he remarks that in all cases when morphia has been injected, attention should be paid to the bladder and to the due action of the skin. The indications for treatment are derived from a careful investigation of the state of the pulse. If a patient has ready a slow pulse, and therefore indications of the paralysis of the vaso-motor nerves, results can be obtained with *small* doses which in another patient with very quick pulse require very *large* doses. Hence a mere examination of sphygmographic tracings will furnish correct indications of treatment. Hence, too, old people as a rule require smaller, younger people larger doses of morphia. Small doses must be prescribed for all degrees of cerebral and cerebro-spinal paralysis, to which the paralysis of the insane is due. In those also who are of middle age and stout, and who therefore have more or less fatty hearts, large doses should not be prescribed, or only with very great precaution. When the pulse is slow, about one-sixth or one-eighth of a grain may be injected, but with a quick pulse one-third or one-fourth of a grain to begin with; if these prove insufficient, the dose may gradually rise to one or even one and a half grain, but must not in any case exceed this. When the effects of the first dose have been fully produced, the patient is to be watched till the pupils again dilate and the nausea disappears, which usually occurs in the course of twenty-four hours. The vomiting or nausea is often, especially in paralytics, the best means of producing quiescence. The dose should then be repeated on the following day, and then be successively diminished from day to day, for many days or even months together. If the excited condition of the patient diminishes very rapidly, the doses of the morphia may also be rapidly decreased, though they should not be altogether discontinued. The subcutaneous injection of morphia may be applied with advantage in both the curable and the incurable cases; it does not, however, succeed very well in very fat young persons. It is just such in whom chloral hydrate acts capitably. The action of morphia is aided by purgatives and warm baths. (*Archiv für Psychiatrie und Nervenkrankheiten*, Band ii.; and *Centralblatt*, No. 6, 1871.)

**Therapeutic Value of Glycerine.**—The dermatologists of the present day, Dr. Fanto remarks, agree in attributing great therapeutic importance to glycerine. They have discarded a

large number of internal remedies that were formerly employed as curative agents in cutaneous affections, especially those that played so important a rôle as laxantia, and the so-called purifiers of the blood, and have resorted largely in their stead to local treatment. Glycerine has proved useful in many anomalous affections. Thus, amongst others, it is particularly valuable in cases of abnormal secretion of sebaceous substances. This is caused by disease of the sebaceous glands, and has its seat, not as was formerly supposed in the subcutaneous connective tissue, but in the corium itself. The functions of these glands may be disturbed in various ways; sometimes there is an increase, a hypersecretion of these glands. This affection occurs for the most part in infancy, being amongst the most frequent of the anomalies of that age, when it is known under the name of *seborrhœa*. It is most commonly seen on the hairy scalp on the face near the ear muscles, more rarely upon the extremities and upon the genitals. For these affections of childhood, glycerine may be prescribed with special advantage. It acts excellently in softening the hardened masses of sebum on the surface of the skin, and in diminishing the irritation of the affected organs. In conjunction with borax, zinc, and acetate of lead, it also diminishes the amount of secretion. In many instances its use must be continued for a considerable period in order to effect a cure. Glycerine proves equally useful in those abnormal conditions of the skin that are characterised by a diminution of the sebaceous secretion, and which in high degrees lead to pityriasis. In this harsh state of the skin glycerine acts well, restoring, when rubbed into it, its softness and natural elasticity. The anhydrous glycerine should be used in both conditions. (*Allgemeine Wiener Medizinische Zeitung*, No. 17, 1871.)

**Michel's Process for removing External Tumours.**  
By William A. Bell, M.A., M.B. Cantab. London: Longmans, 1871.—This little pamphlet gives an interesting account of the mode of operation for the removal of tumours practised by a French charlatan, for a knowledge of which Mr. Bell paid no less a sum than 25,000 francs, and which, having now obtained complete information, he has very properly and liberally made public. The preparation used in all cases where the tumour can with safety be reached externally is made in the following way. Asbestos, as soft and free from grit as possible, is reduced by rubbing between the hands to the finest possible fleecy powder. It is then mixed thoroughly with three times its own weight of strong sulphuric acid ( $\text{SO}_3 \text{H O}$ ). A mass is thus formed which may be easily worked with a silver or gold spatula into any size or shape corresponding to the tumour to be destroyed. Any malignant growth of the breast which is detached and solitary,

with the subaxillary glands unaffected, is suitable for treatment, whether open or not makes no difference. In the application of the caustic the adjoining healthy parts of the skin are carefully protected by applying a zone of collodion and pads of linen, and the patient is so placed that the surface of the tumour is perfectly level. The saturated acid asbestos is then laid on the surface to the thickness of half an inch for a tumour the size of a hen's egg. Rapid destruction of the tissues follows, with, after the first half-hour or so, but little pain. An oozing of clear watery fluid appears, which must be carefully sopped up. After twelve or fourteen hours' action the first application is to be removed, and a new portion of smaller size adapted to the sore. After this has been applied for twelve hours the operation is complete, and the healing of the deep excavation alone requires to be attended to, for the details of which we must refer our readers to Mr. Bell's pamphlet. Mr. Bell does not pretend to say that this mode of operation will effect a permanent cure of cancerous cases, but he thinks that the plan presents various and considerable advantages over extirpation by the knife, as in producing much less shock to the system, in removing the tumour alone with but little of the surrounding breast, and in postponing, in malignant cases, for a longer period the recurrence of the disease.

## Notes and Queries.

### DEPARTMENT OF ANALYSIS AND INVENTIONS.

**COD-LIVER OIL JELLY.**—Manufactured and patented by James Agnew, M.P.S., 278, Great Homer Street, Liverpool.

Samples bought of the undermentioned London Agents:—

No. I.—Barclay and Sons, Farringdon Street.

No. II.—Evans, Lescher, and Evans, Bartholomew Close.

No. III.—Millard and Son, 44, Barbican.

No. IV.—H. A. Thompson, Worship Street, Finsbury Place.

The following table gives the results of the analyses:—

Number.	Specific gravity.	Cod-liver oil per cent. by		Sugar per cent. by weight.
		Volume, in volume.	Weight, in weight.	
I.	1·1073	54·12	44·23	39·54
II.	1·1096	55·03	45·88	33·29
III.	1·0937	58·40	49·42	32·90
IV.	1·0958	54·09	45·67	32·65

Two spoonfuls of the jelly contain, therefore, a little more than one spoonful of cod-liver oil.

The formula for the preparation of the jelly as given by Mr. Agnew is the following:—

Cod-liver oil . . . . .	75 parts.
Sugar . . . . .	10 „
Water . . . . .	10 „
Gelatine, acid, &c. . . . .	5 „

—  
100

The parts given in the formula can only mean parts by weight, inasmuch as both solids and liquids are used, and the former

are always weighed and never measured : moreover, the parts add up to 100. Accordingly, the volume per cent. of cod-liver oil contained in the jelly should therefore be about 82, while the sugar should amount to only 10 per cent. by weight.

In commenting upon the very serious difference between the results of our analysis and that published by Mr. Agnew, we must remark that we have taken the greatest precautions to be sure that our examination was made under circumstances as favourable as possible to the drug. It will be seen that our samples were purchased at the establishments of four first-rate London drug dealers, agents of Mr. Agnew ; and that in all, the same remarkable deficiency of oil below the published standard is to be observed : assuredly a grave manufacturing error. It would be convenient to possess a palatable cod-liver oil jelly : but it is highly undesirable that the physician should be misled, to the extent of *one-third*, as to the quantity of cod-liver oil that he is giving.

### CORRESPONDENCE.

THE TASTE OF CHAPMAN'S WHOLE WHEAT FLOUR.—Mr. E. W. Jollye, of Donington, Spalding, writes as follows :—

"I notice you complain of the too genuinely wheaty flavour of Messrs. Chapman's very valuable Entire Wheat Flour. I find the addition of one or two tablespoonfuls of the flour, carefully baked, to each pound, completely gets rid of that objection, and of course without in any way interfering with its properties.

"If the manufacturers could make such a simple addition to it, it would save the public some little trouble, and at the same time make the article more generally used."

NOTE ON IODOFORM AND ITS USES—Dr. H. S. Purdon, Physician to Belfast General Hospital, and to the Hospital for Skin Diseases, sends us the following very interesting note :—

"Having recently prescribed iodoform in several diseases, I take the liberty of offering a few brief remarks thereon.

"Iodoform was introduced into practice by Dr. Glover in 1848. It has the appearance of small crystals, possessing the colour and odour of saffron ; the taste is sweet. It is volatile, soft to the touch, insoluble in water, but the opposite in alcohol and ether. According to Dr. Waring, the medicinal properties and action of iodoform is a union of tonic, stimulant, and alterative properties, exercising at the same time a remarkable influence on the nervous system. Though ordinarily unirritating, it may, however, in large doses prove fatal, fifty grains in Dr. Cogswell's experiments having destroyed a large dog, and the



odour of iodine was detected in the blood, brain, and muscles. The dose is from gr. j. to gr. iij. twice daily, in the form of pill. Externally, it may be applied in the form of ointment, 3ss. or ʒj. to the ʒj. The same author, Dr. Waring, considers that, as an anæsthetic, iodoform has been supposed to produce effects similar to chloroform. He quotes Righini and Bouchardat, to show that though its influence on leeches, fishes, &c., is very marked, yet that on mammalia it will bear no comparison with chloroform, *except, indeed, in its local application*. Iodoform introduced in the form of suppository into the rectum, exercises upon the sphincters a local anæsthetic effect, so that defecation has been performed unconsciously. Consequently iodoform has been used in such painful affections as tenesmus, hæmorrhoids, &c. Moûtre's formula is: Iodoform powdered, gr. xx.; cocoa butter, ʒj: melt and mix into six suppositories. As a disinfectant, its power has been asserted by M. Righini. The first case in which I prescribed iodoform was in a medium-sized ulcer, situated nearly over the tibia on the left leg of a poor woman 50 years of age, a patient at the Belfast Hospital for Diseases of the Skin. She had been attending off and on for about nine months. She would not come into hospital, as it obliged her breaking up her little establishment; nor could she give her leg absolute rest. The ulcer was inflamed, irritable, and *extremely painful*. Sleep at night was only had in fitful doses. Various were the remedies tried: opium, locally and constitutionally; carbolic acid, nitric acid lotion, ointments, strapping, &c.; the latter, as well as water dressing, made the ulcer worse. At last I thought of iodoform, and having obtained a supply of it for the Skin Hospital, I was enabled to prescribe the same for her, commencing with one drachm of iodoform and a few drops of rectified spirit to the ounce of lard. The ointment was of a handsome yellow colour, had a pleasant odour of saffron, which could be perceived several yards from the patient, and, what is of more importance, had the desired effect—checking the pain, which after a few applications entirely ceased. Then granulations of a healthy nature began to spring up, and the ulcer assumed a clean appearance and rapidly healed over. The other complaints in which I have used iodoform locally are not numerous, owing to its expense being such as to prevent a very extensive trial of it at a public institution. I have used it in prurigo and chronic eczema. The former occurred in the person of an old soldier who had been several years in India: the disease was of a purely neurotic character; many drugs, baths, &c., had been tried before we commenced the iodoform; however, it did not succeed in affording anything more than temporary relief, and that only for a short time. In chronic eczema, when the itching is very severe, the ointment described above can be tried and will be found of service. I am trying it

in scabies, not only for the purpose of allaying the itching, but I believe it also destroys the insect. It is asserted by some writers that it is the lard in the ointments prepared for the cure of this complaint, to which their efficacy is to be attributed, not to the ingredients with which it is combined; as, for instance, we have now in addition to the various sulphur ointments, iodide of potassium, staphwagn, storax ointment, &c., and lastly black soap. I also see in the last Italian journal, *Lo Sperimentale*, published in Florence, an extract (page 530) regarding the cure of itch with balsam copaiba, carbolic acid, balsam of Peru, and petroleum. Dr. Luigi Monti speaks highly of the first-mentioned. It is merely rubbed over the body once or twice, a bath, and the person is well. Certainly, then, iodoform ointment demands a trial, especially in private practice, as it is an elegant and pleasantly perfumed application.

"According to a recent notice in the *Medical and Surgical Reporter*, it seems that M. Demarquay is dressing cancerous sores with iodoform, in which cases it acts as a local anæsthetic and disinfectant. Dr. Stiles recommends it as an addition to the ordinary plasters and ointments for syphilitic periostitis, and an ointment containing 30 to 40 grains of iodoform as an application to painful burns, chancres, and boils, and for promoting rapid healing. In two cases of chancre, he says that 'the dry powder was applied with magical results.' In pruritus ani, often attended by no other objective or subjective symptom save itching, which complaint is very annoying to the patient, a suppository of iodoform is useful. Pruritus ani is sometimes due to the presence of a parasitic fungus; consequently, if we destroy the vegetable growth our cure is complete, and I believe iodoform is a powerful parasiticide, containing 90 per cent. of iodine. Also in that painful affection described first by Boyer, and noticed by the late Mr. Syme in his work on Surgery, viz. fissures and ulcers of the rectum, iodoform is useful: if not curative, it allows of defecation without pain, and certainly should be tried before surgical means are attempted. According to Boyer, as quoted by Syme, the disease under notice consists of 'one or more small superficial ulcerated chops, lying in the direction of the radiated folds of the anus, but rather more internally so as not to be visible without a forcible separation of the nates.' The pain of this complaint is very severe, worse during evacuation of the bowels; and for the cure of it, Boyer recommended the sphincter ani to be divided, and Mr. Syme incisions through the fissure. I believe in the ordinary run of cases such means are seldom now resorted to, and that iodoform deserves an extensive trial in these cases. Hæmorrhoids have already been mentioned. Some painful affections of the uterus are benefited by suppositories of iodoform introduced into the vagina; this practice being chiefly used by

continental surgeons. \* However, all agree in giving to iodoform surprising anæsthetic properties; but it might be as well to mention that Dr. Brown-Séquard has found that various narcotic ointments employed against neuralgic and other uterine pains 'act with greater rapidity and much more benefit when pushed up on a small lint ball into the rectum, than in the vagina; showing that absorption is more rapid by the mucous membrane of the rectum than by the vagina.' Consequently an iodoform suppository will be sufficient in these complaints.

"In conclusion, iodoform has been employed locally and constitutionally in the treatment of glandular enlargements. Whether it is successful in this class of complaints the writer cannot say.

"P.S.—It seems that iodoform combined with iron is a favourite remedy in the United States for such diseases as scrofula, anæmia, neuralgia, chlorosis, and rheumatism. The dose is one grain of iodoform and one of iron, in a pill, thrice daily. Messrs. W. Warne and Co., of Philadelphia, are the makers."

NOTES OF A CASE OF ASTHMA.—MR. W. R. Duguid, of Buckie, N.B., sends us this:—

"Mrs. G. has suffered from asthma for many years, and been treated in various ways with little benefit. At length I prescribed arsenic, which gave rapid relief. For several years, whenever attacked by asthma, a few doses of arsenic put her right, 'like a charm.' She was confined in the early part of the present year, and was making a satisfactory recovery. Three days after, I was sent for with the intimation that she had been seized with an asthmatic attack, was very ill, and had tried arsenic with no benefit. Not being able to attend immediately, I sent her a half-drachm dose of chloral. On visiting her a few hours after, I found her sitting on a sofa in a state of high fever, with very hard and fast pulse, dry skin, suppressed lochia, and the ordinary symptoms of a very severe asthmatic attack. She had been none the better for the chloral. I ordered her to be fumigated with the vapour of iodine; to be repeated every two or three hours. In the evening (about five hours after) I found her considerably relieved. Next morning the breathing was quite easy, fever nearly gone, and lochia returned: and recovery thereafter was rapid and complete."

THE CHOICE AND MAKE OF TRUSSES.—We would call attention to an excellent pamphlet on this subject by Mr. Holthouse, who is well known as a high authority in all that concerns the subject of rupture. His advice on this topic is well worth listening to.



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